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SYSTEM:OS - DIALOG OneSearch
File 348:EUROPEAN PATENTS 1978-2002/Jul W03
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File 349:PCT FULLTEXT 1983-2002/UB=20020725,UT=20020718
(c) 2002 WIPO/Univentio

Set	Items	Description
S1	4897	((INSULAT?????? OR DIELECTRIC???)(3N)(WIRE? ? OR WIRING OR FIBER? ? OR FIBRE? ? OR CABLE? ?))/TI,AB,CM
S2	107770	(CURRENT? ? OR (ELECTRIC??????(3N)CHARG??????))/TI,AB,CM
S3	14675	(CURRENT? ?(3N)ELECTRIC??????)/TI,AB,CM
S4	1475	((FLUID? ? OR LIQUID? ?)(3N)(ELECTROLYT?????? OR ELECTROLYS??????))/TI,AB,CM
S5	73	((ELECTROLYT?????? OR ELECTROLYS??????)(3N)PROPERT??????)/TI,AB,CM
S6	19940	((ELECTROLYT?????? OR ELECTROLYS??????))/TI,AB,CM
S7	3839	((THERMAL?????? OR THERMO??????? OR HEAT??????)(3N)(IMAGE? ? OR IMAGING))/TI,AB,CM
S8	27	(GRAPHIC??????(3N)THERM??????)/TI,AB,CM
S9	4661	((INTENS?????? OR DEGREE OR CONCENTRAT??????)(3N)(HEAT????-??))/TI,AB,CM
S10	710	S1 AND S2
S11	218	S10 AND S3
S12	2	S11 AND S4
S13	216	S11 NOT S12
S14	1	S13 AND S5
S15	215	S13 NOT S14
S16	8	S15 AND S6
S17	8	IDPAT (sorted in duplicate/non-duplicate order)
S18	8	IDPAT (primary/non-duplicate records only)
S19	207	S15 NOT S18
S20	3	S19 AND S7
S21	3	IDPAT (sorted in duplicate/non-duplicate order)
S22	3	IDPAT (primary/non-duplicate records only)
S23	204	S19 NOT S22
S24	0	S23 AND S8
S25	6	S23 AND S9
S26	6	IDPAT (sorted in duplicate/non-duplicate order)
S27	6	IDPAT (primary/non-duplicate records only)
S28	198	S23 NOT S27
S29	12	S1 AND S4
S30	12	S29 AND (S5 OR S6 OR S4)
S31	5	S30 AND THERM??????/TI,AB,CM
S32	5	IDPAT (sorted in duplicate/non-duplicate order)
S33	5	IDPAT (primary/non-duplicate records only)
S34	3	S33 NOT S27,S22,S14,S12
S35	327	S9 AND (S2 OR S3)
S36	327	S9 AND S2
S37	107	S36 AND (INSULAT?????? OR DIELECTRIC???)/TI,AB,CM
S38	1	S37 AND S5
S39	106	S37 NOT S38
S40	8	S39 AND S6
S41	7	S40 NOT S27,S22,S14,S12,S34
S42	7	IDPAT (sorted in duplicate/non-duplicate order)
S43	7	IDPAT (primary/non-duplicate records only)
S44	1	S39 AND S4
S45	1	S44 NOT S43,S38

08/01/2002 09/437,226

Set	Items	Description
S1	4897	((INSULAT?????? OR DIELECTRIC???)(3N)(WIRE? ? OR WIRING OR FIBER? ? OR FIBRE? ? OR CABLE? ?))/TI,AB,CM
S2	107770	(CURRENT? ? OR (ELECTRIC??????(3N)CHARG??????))/TI,AB,CM
S3	14675	(CURRENT? ?(3N)ELECTRIC??????)/TI,AB,CM
S4	1475	((FLUID? ? OR LIQUID? ?)(3N)(ELECTROLYT?????? OR ELECTROLYS??????))/TI,AB,CM
S5	73	((ELECTROLYT?????? OR ELECTROLYS??????)(3N)PROPERT??????)/TI,AB,CM
S6	19940	((ELECTROLYT?????? OR ELECTROLYS??????))/TI,AB,CM
S7	3839	((THERMAL?????? OR THERMO??????? OR HEAT??????)(3N)(IMAGE? ? OR IMAGING))/TI,AB,CM
S8	27	(GRAPHIC??????(3N)THERM??????)/TI,AB,CM
S9	4661	((INTENS?????? OR DEGREE OR CONCENTRAT??????)(3N)(HEAT????-??))/TI,AB,CM
S10	279576	(IMAGE? ? OR IMAGING OR GRAPHIC? OR PICTUR?)/TI,AB,CM
S11	801	S1 AND S10
S12	122	S11 AND S2
S13	0	S12 AND S8
S14	2	S12 AND S4
S15	120	S12 NOT S14

12/TI,PY,PD,PN,K/1 (Item 1 from file: 349)

IN-SITU HEATING OF COAL FORMATION TO PRODUCE FLUID
RECUPERATION IN SITU DANS UNE FORMATION HOUILLERE
Patent and Priority Information (Country, Number, Date):
Patent: WO 200181240 A2-A3 20011101 (WO 0181240)
Publication Year: 2001
laim
... a magnetic field produced in an adjacent heater well. For example, the magnetic field may be produced in the adjacent heater weIl by flowing a **current** through an insulated **current**-carrying wireline disposed in the adjacent heater weIL Alternatively, one or more of the heater wefis 2 1 0 may be formed by a method...532 may have 38 critical flow orifices 515 disposed along its length. within. opening 514. Critical flow orifices 515 may be configured as described herein. **Electrical current** may be applied to insulated conductor 562 to generate radiant heat in opening 514. Conduit 532 may be configured to serve as a retum for...the opening for oxidation of hydrocarbons. Oxidation of the hydrocarbons may be configured to heat the coal formation in a process of natural distributed combustion. **Electrical current** applied to the **electric** heater may subsequently be reduced or may be tumed off. Thus, natural distributed combustion may be configured, in conjunction with an electric heater, to provide...

...heater may be a heater element of a heat source. In an embodiment of an insulated conductor heater, the insulated conductor heater is a mineral **insulated cable** or rod. An **insulated** conductor heater may be placed in an opening in a coal formation. The insulated conductor heater may be placed in an uncased opening in the...or irregular shape. An insulated conductor heater may include conductor 575, electrical insulation 576 and sheath 577. The conductor 575 may resistively heat when an **electrical current** passes through the conductor. An alternating or direct **current** may be used to heat the conductor 575In an embodiment, a 60 cycle AC **current** may be used.
.of an insulated conductor may be fonned so that the insulated conductors have enough strength to be self supporting even at upper working temperatures. Such **insulated cables** may be suspended from weIlheads or supports positioned near an interface between an overburden and a coal forination without the need for support inembers extending into the hydrocarbon formation along with the insulated conductors. In an embodiment, a higher frequency **current** may be used to take advantage of the skin effect in certain metals. In some embodiments, a 60 cycle AC **current** may be used in combination with conductors made of metals that exhibit pronounced skin effects. For example, ferromagnetic metals like !ron alloys and nickel may exhibit a skin effect.
The impurities 578 added may be, but are not limited to, Ca0, Fe2O3, A1203, and other metal oxides. Low porosity of the electrical insulation tends to reduce leakage **current** and increase dielectric strength. Low porosity may be achieved by increased packing of the MgO powder during fabrication or by filling of the pore space...the sheath of

the insulated conductor heater. The lack of weld on the sheath may avoid potential weak spots (mechanical and/or electrical) on the **insulated cable** hea

Cable Company. One or more insulated conductor heaters may be placed within an opening in a forination to forin a heat source or heat sources. **Electrical current** may be passed through each insulated conductor heater in the opening to heat the formation. Altemately, **electrical current** may be passed through selected insulated conductor heaters in an opening. The unused conductors may be backup heaters. Insulated conductor heaters may be electrically coupled...

12/TI,PY,PD,PN,K/2 (Item 2 from file: 349)

ELECTRIC CONNECTION OF ELECTROCHEMICAL AND PHOTOELECTROCHEMICAL CELLS
CONNEXION ELECTRIQUE DE CELLULES ELECTROCHIMIQUES ET PHOTOELECTROCHIMIQUES
Patent and Priority Information (Country, Number, Date):
Patent: WO 200042674 A1 20000720 (WO 0042674)
Publication Year: 2000

However, for reasons of simplicity, only the example of a conducting **wire** with a single **insulating** layer will be described in the following. A first detailed, not limiting example of a first embodiment of the present 2 0 invention shall now...and fixed with a procedure including the following steps:
3 0 a) applying a force F corresponding to a pressure of 100-500 kg/cm **insulated wire** between the conducting glasses;
e) applying a reduced pressure of 1-2 kg/ cm **insulated wire;**
Preferably, The steps b) and c) are repeated a few times. It is possible to add a step of pre-compression of the coated wires...areas should of course be coated before the sealing of the conducting glasses.
The displaced coating material forms a barrier between the wire and the **electrolytic liquid** in the cell, as seen in fig 2, thereby protecting the metal wire from chemical attack from the electrolyte.
Furthermore, as is seen in fig...

...compartment, as well as to the upper electrode area of the next compartment, thereby providing a series connection. The metal wires are useful for conducting **electric current** from or to the electrolytic cells. Generally, the thickness of each substrate is selected to suit the application at hand. The force to press the...

...with the use of a thermal adhesive, it is possible to use local heating of the area around the thermal adhesive by transmitting a high **current** trough the metal wires, thereby heating the wires. Local heating can also be achieved with laser radiation or microwave radiation.
In the case
of radiation...F) for pressing the first and second plate members together,
the magnitude of said force being selected such that the plate members penetrates through the **insulating** material of the **wires,**
thereby bringing the conducting wires (7, 9, 21-27) into electrical connection with the conducting layer (6) of the second plate member.

2 The method...

...and the conducting layer (3) of first plate member after step of compression.

3 The method according to anyone of the previous claims, wherein said **insulating** metal **wire** coating (8, 1 1) is a plastic material.

14/TI,PY,PD,PN,K/1 (Item 1 from file: 349)

DETECTION AND LOCATION SYSTEM FOR MONITORING CHANGES IN RESISTIVITY IN THREE DIMENSIONS
SYSTEME DE DETECTION ET DE LOCALISATION PERMETTANT DE SURVEILLER DES MODIFICATIONS DE LA RESISTIVITE EN TROIS DIMENSIONS
Patent and Priority Information (Country, Number, Date):
Patent: WO 9612177 A1 19960425
Publication Year: 1996

said plurality of sensing means detecting variations in potential difference between each individual said sensing means and other proximate said sensing means;
a **current** supply directed to a region proximate to said sensing means such that an electric field is established between said sensing means when said **current** supply is energized;
each of said sensing means oriented in a fixed location embedded within the soil substrate;
the impoundment provided with a substance, which...

...mitered comer.
Claim 6 - The apparatus of claim 5 wherein said mitered comer is affixed to a copper lead which is connected to heavy gage **insulated wire**.
Claim 7 - The apparatus of claim 6 wherein said copper lead and an exposed portion of said wire is coated with a waterproof substance.
Claim 8 - The apparatus of claim 1 wherein said monitoring means consists of a voltage measuring means and a **current** measuring means.

...of portions of an underground aquifer comprising in combination:
a plurality of electrodes oriented in an array and having directional sensitivity such that when an **electric current** from a **current** source is impressed on two electrodes of the array a potential difference is imposed between two other electrodes in the array,
whereby when salinated water penetrates soil surrounding said electrodes, the resistivity of the soil is decreased due to the different **electrolytic properties** of salinated water indicating that salinated water migration is occurring. Claim 19 - The system of claim 17 wherein the resistivity (R) of the soil is determined from said electrodes measured potential difference (V) and the **current** (I) impressed by other said electrodes through the equation:

...lateral dimension of less than 1 pm.

13 Apparatus for implanting clopants into a solid material at a selected region, comprising
- a cell containing a **fluid electrolyte** (5),
- one electrode which consists of or comprises the solid material (2),
- a counterelectrode (1) which is at least partly patterned in conformity with the...

18/TI,PN,PD,PY,K/1 (Item 1 from file: 348)

Endovascular **electrolytically** detachable guidewire tip
Endovaskulare, elektrolytisch abtrennbare Fuhrungsdrahtspitze
Extremite, detachable de maniere **electrolytique**, de fil de guidage endovasculaire
PATENT (CC, No, Kind, Date): EP 914803 A1 990512 (Basic)

...ABSTRACT coil being coupled to said main body (12,16,32) via said distal portion (18,26,36,46) and comprised of material not susceptible to **electrolytic** disintegration in blood;
wherein said distal portion (18,26,36,46) is susceptible to **electrolytic** disintegration in blood whereby, on the application of **electric current** to the guidewire (10,42) when said coil (28,56) is endovascularly disposed in the vascular cavity, endovascular electrothrombosis can be performed in the cavity by said coil and at least one portion of said distal portion (18,26,36,46) **electrolytically** disintegrated to detach said coil (28,56) from said main body (12,16,32) to enable the removal of the main body (12,16,32...

the guidewire being so constructed and arranged that, on the application of **electric current** to the guidewire (10,42) when said tip portion coil (28,56) is endovascularly disposed in the vascular cavity, endovascular electrothrombosis can be performed in the cavity by said tip portion coil (28,56) and at least one portion of said distal portion (18,26,36,46,52) **electrolytically** disintegrated to detach said tip portion coil (28,56) from said main body (12,16,32) to enable the removal of the main body (12...
7. A guidewire as claimed in claim 6, wherein said...

...guidewire as claimed in any one of the preceding claims, wherein the tip portion coil (28,56) is comprised of a metal not susceptible to **electrolytic** disintegration in blood.
20. A guidewire as claimed in any one of the...

...core wire is such that, when the tip portion coil (28,56) is disposed in the vascular cavity and the guidewire is supplied with a **current** of approximately 0.01 to 2 milliamps at 0.1 to 6 volts, **electrolytic** disintegration of said at least one portion of the distal portion (18,26,36,46) of the core wire takes place within 3 to 10...one of the preceding claims, wherein the core wire is provided with means for enabling connection of the guidewire to a voltage source to enable **electric current** to be applied to the guidewire.

18/TI,PN,PD,PY,K/2 (Item 2 from file: 348)
DIALOG(R)File 348:(c) 2002 European Patent Office. All rts. reserv.

Endovascular **electrolytically** detachable guidewire tip
Endovaskulare elektrolytisch abtrennbare Fuhrungsdrahtspitze
Extremite de fil de guidage endovasculaire detachable de maniere **electrolytique**
PATENT (CC, No, Kind, Date): EP 804904 A1 971105 (Basic)

...ABSTRACT coil being coupled to said main body (12,16,32) via said distal portion (18,26,36,46) and comprised of material not susceptible to **electrolytic** disintegration in blood;

wherein said distal portion (18,26,36,46) is susceptible to **electrolytic** disintegration in blood whereby, on the application of **electric current** to the guidewire (10,42) when said coil (28,56) is endovascularly disposed in the vascular cavity, endovascular electrothrombosis can be performed in the cavity by said coil and at least one portion of said distal portion (18,26,36,46) **electrolytically** disintegrated to detach said coil (28,56) from said main body (12,16,32) to enable the removal of the main body
.CLAIMS coil being coupled to said main body (12,16,32) via said distal portion (18,26,36,46) and comprised of material not susceptible to **electrolytic** disintegration in blood;

wherein said distal portion (18,26,36,46) is susceptible to **electrolytic** disintegration in blood whereby, on the application of **electric current** to the guidewire (10,42) when said coil (28,56) is endovascularly disposed in the vascular cavity, endovascular electrothrombosis can be performed in the cavity by said coil and at least one portion of said distal portion (18,26,36,46) **electrolytically** disintegrated to detach said coil (28,56) from said main body (12,16,32) to enable the removal of the main body (12,16,32...

25. A guidewire as claimed in any one of the preceding claims, wherein the main body (12,16,32) of the core **wire** is covered with **insulation** (24) to prevent the underlying portion of the guidewire from coming into contact with blood.
26. A guidewire as claimed in any one of the coil (28,56) is disposed in the vascular cavity and the guidewire is supplied with a **current** of approximately 0.01 to 2 milliamps at 0.1 to 6 volts, **electrolytic** disintegration of said at least one portion of the distal portion (18,26,36,46) of the core wire takes place within 3 to

08/01/2002 09/437,226

18/TI,PN,PD,PY,K/3 (Item 3 from file: 348)
DIALOG(R)File 348:(c) 2002 European Patent Office. All rts. reserv.

Stretch resistant vaso-occlusive coils
Ausdehnungswiderstandfahige vaso-okklusive Spirale
Spirale occlusive resistante a l'allongement
PATENT (CC, No, Kind, Date): EP 792623 A1 970903 (Basic)
EP 792623 B1 990804

...ABSTRACT need not have the secondary form. Desirably, the coil is extremely flexible and is controllaby released using a severable or mechanical joint such as an **electrolytically** detachable joint. External fibers may be attached to the device and affixed to the pre-formed linear member to increase thrombogenicity. The extremely flexible variation...

.CLAIMS and

(ii) a deployment tip (138,238) attached to at least one of said first and second ends, said deployment tip (138,238) comprising an **electrolytically** detachable end adapted to detach from a pusher (136,236) by imposition of an **electric current** on said pusher,

.132, 232). The core wire (136, 236) in this variation has an enlarged member which is embedded in the fill member (132, 232). The core **wire** (136, 236) is **insulated**, typically with a combination of polytetrafluoroethylene and PARYLENE (polyparaxyxylene), except for a small sacrificial joint (138, 238) which is intended to be the site of the **electrolysis** as the joint (138, 238) is eroded or severed and the coil deployed into the body site. The details of this variation (sans stretch-resistant particularly when used with an **electrolytically** severable joint. Figure 9 shows the flow-directed catheter (200) containing a very flexible vaso-occlusive coil (202) as described above and utilizing a similarly...

Proximally of the vaso-occlusive coil (202) is a connective **wire** (208) which is **insulated** at all points proximal of the **electrolytic** joint (210)

08/01/2002 09/437,226

18/TI,PN,PD,PY,K/4 (Item 4 from file: 348)
DIALOG(R)File 348:(c) 2002 European Patent Office. All rts. reserv.

Apparatus for endovascular thermal treatment
Gerat zur thermalen endovaskularen Behandlung
Appareil pour le traitement thermique endovasculaire
PATENT (CC, No, Kind, Date): EP 750886 A1 970102 (Basic)

...ABSTRACT A1
A thrombus is generated in an aneurysm, arteriovenous malformation or fistula by means of a catheter having an insulated heating coil coupled to an **insulated** delivery **wire**. In one embodiment, two delivery wires are coupled to heating coils to provide a closed circuit. The heating coils may be in the form of...

...or a single helix in combination with a straight heating coil. The heating coils may be permanently connected to the delivery wires or may be **electrolytically** or mechanically detached therefrom.
Alternatively, a single insulated heating coil may be attached to a single **insulated** delivery **wire** with a uninsulated coil attached to the tip of the insulated heating coil. The electrical circuit is then made through the heating coil and non...

...CLAIMS for the purpose of delivering heat to a fluid within said vascular system at a predetermined location, substantially all of said heat being generated by **electrical current** flowing within said heating coil rather than within said delivery wire, whereby endovascular thermal treatment is provided within said vascular system.
3. The improvement of Claim 2 wherein said delivery wire and heating coil are **electrolytically** detachable from each other.

18/TI,PN,PD,PY,K/5 (Item 5 from file: 348)

ELECTROCHROMIC LIGHT MODULATION DEVICES, IN PARTICULAR SCREENS AND DISPLAYS
ELEKTROCHROME VORRICHTUNG ZUR LICHTMODULATION INSBESONDERE FUR SCHIRM UND ANZEIGE
DISPOSITIFS ELECTROCHROMIQUES POUR LA MODULATION DE LA LUMIERE, NOTAMMENT DE TYPE ECRANS ET AFFICHEURS
PATENT (CC, No, Kind, Date): EP 635144 A1 950125 (Basic)
EP 635144 B1 970528
WO 9321558 931028

...CLAIMS respective substrates and their relative arrangement being selected to form a light modulation cell or juxtaposition of cells;
- at least one layer (25, 26) of **electrolytic** material between working electrode(s) (23) and counter-electrode(s) (2, 6), the composition of which makes it possible to ensure electrochromism;
- means of supplying **electric current** to the ends of the working electrode(s) (23) and of the counter-electrode(s) (2, 6), which may be completed by means of supplying **electric current** within the working electrode(s) (23) and/or the counter-electrode(s) if the latter is (or are) transparent or substantially transparent, it being possible...
...to control them selectively ;
.electrodes (2, 6), a non-corrodible conductive wire is used, for example, a carbon fiber or a metal or alloy wire not corroded by the **electrolytic** medium chosen, including when the **current** passes into the cell,or again a conductive metal wire protected from contact with the **electrolytic** medium by means of a conductive varnish, formed,for example, by particles of graphite in a polymerisable binder; and, to make up an assembly (27) for supplying additional **current** within a working electrode or a network of working electrodes (23) or of a counter-electrode or a network of transparent counter-electrodes, a conductive...

18/TI,PN,PD,PY,K/6 (Item 6 from file: 348)

Multi-layer wiring structure in a semiconductor device and method of manufacturing the same
Mehrlagige Verbindungsstruktur fur eine Halbleiter- vorrichtung und Verfahren zu ihrer Herstellung
Structure d'interconnexions multicouches pour un dispositif semi-conducteur, et procede pour sa fabrication
PATENT (CC, No, Kind, Date): EP 524818 A1 930127 (Basic)
EP 524818 B1 971008

...ABSTRACT a metal plating (Fig. 1D), and the etching-back is performed again. Thereafter, an upper level wiring conductor (7) is plating-grown by supplying an **electric current** to the first conducting film (5), and the second conducting film (10) remaining on the side wall surface and the lower level wiring conductor (3..
.said second insulating film and said second conducting film covering a side wall of said through hole remain,
performing an electroplating process by supplying an **electric current** by means of said first conducting film to said second conducting film remaining on said side wall of said through hole and to said lower...

18/TI,PN,PD,PY,K/7 (Item 7 from file: 348)

Inorganically insulated heater, process for production thereof and cathode ray tube using the same.
Nichtorganisch isoliertes Heizelement, dessen Herstellungsverfahren und ein solches Element verwendende Kathodenstrahlrohre.
Element chauffant a isolation non organique, son procede de fabrication et tube a rayons cathodiques en faisant usage.
PATENT (CC, No, Kind, Date): EP 407104 A2 910109 (Basic)
EP 407104 A3 910320
EP 407104 B1 950426

...ABSTRACT the whole insulating layer is made uniform and thereby the development of cracks and the like in the insulating layer is reduced and breaking of **wire** and **dielectric** breakdown occur with difficulty even at high temperatures and under strong vibrations. ...

...CLAIMS A3
1. An inorganically insulated heater comprising a metallic **wire** heater, an **insulating** layer covering said metallic wire heater formed of a porous layer of an inorganic substance and a covering layer formed on the insulating layer, wherein...

...of forming the first insulating layer which insulates between the adjacent metallic wires of the metallic wire heater by electrodeposition using a suspension containing an **electrolyte** having reaction- control type electrodeposition characteristics and inorganic insulating particles, and
(2) a step of forming the second insulating layer on the first insulating layer...

...first insulating layer and insulate the outside of the metallic wire heater, and
has an electric insulating property wherein no imperfect insulation occurs in an **electric current** application test of 4,000 on-off cycles at a voltage applied to the metallic wire coil of 6.3 V or more and a...
.of claims 1 to 5 arranged in a gas stream whose flow rate is to be detected, a means (908) of heating by application of **electric current** for heating the heater, and a detecting means for detecting the temperature of the heater which changes with a change in flow rate of the gas stream, wherein the heater comprises a metallic **wire** heater (901), an **insulating** layer (2) covering said metallic **wire** heater, said **insulating** layer being porous and of inorganic material, and a covering layer on the insulating layer, the insulating layer of the heater comprising (1) a first insulating layer (904) in close contact with the metallic **wire** heater, said first **insulating** layer being formed of inorganic insulating particles and having a packing rate of inorganic insulating particles between adjacent metallic wires of the metallic wire heater...

8/TI,PN,PD,PY,K/8 (Item 8 from file: 349)

CARBON FIBERS FORMED FROM SINGLE-WALL CARBON NANOTUBES
FIBRES DE CARBONE PRODUITES A PARTIR DE NANOTUBES EN CARBONE A PAROI SIMPLE
Patent and Priority Information (Country, Number, Date):
Patent: WO 9839250 A1 19980911
Publication Year: 1998
. 96.
101. The power transmission cable of claim 100 wherein both a central conductor and a coaxially disposed outer conductor are formed from said carbon **fiber** and an **insulating** layer is disposed therebetween.
102. The power transmission cable of claim IO 1 wherein said insulating layer is an air space. 103. The power transmi ssion cable of claim I 0 1 wherein said insulating layer comprises a material selected from the group consisting of **insulating** carbon **fiber** made from carbon nanotubes of the (m,n) type and **insulating** BN **fiber** made from hexaboronitride nanotubes or mixtures thereof. 104. A solar cell for converting broad spectrum light energy into **electrical current** comprising a molecular array according to claim 81 as the photon collector. 105. The solar cell of claim 104 additionally comprising a photoactive dye coupled...said read end of said bit to form a second gap, whereby the presence of said endohedral species is unambiguously determined by the presence of **current** tunneling across said first and second gaps.
111. A microporous anode for an electrochemical cell comprising a molecular array according to claim 8 1. 112. A lithium ion secondary battery comprising the anode of claim I I 1, a cathode comprising LiC002and an aprotic organic **electrolyte** wherein a fullerene intercalating compound (FIC) of lithium forms at the anode under charging conditions.

22/TI,PN,PD,PY,K/1 (Item 1 from file: 348)

IMAGE HEATING DEVICE AND **IMAGE** FORMING DEVICE USED FOR THIS
BILDERWARMUNGSVORRICHTUNG UND DAMIT AUSGERUSTETE BILDERZEUGUNGSVORRICHTUNG
DISPOSITIF DE CHAUFFAGE D'IMAGE ET DISPOSITIF ASSOCIE DE FORMATION D'IMAGE
PATENT (CC, No, Kind, Date): EP 1174774 A1 020123 (Basic)
WO 200052534 000908

An **image heating** device having a predetermined amount of heat generation with a small **electric current**. The device comprises a heat-generating roller (1) having magnetism and conductivity, an exciting coil (5) opposed to the peripheral face of the heat-generating...

...CLAIMS A1
1. An **image heating** device comprising:
a heat-generating member comprising a rotatable body having conductivity, and
an exciting coil arranged in opposition to the peripheral surface of the ...

...member and adapted for allowing the heat-generating member to generate heat with electromagnetic induction; wherein the exciting coil is composed of a bundle of **wires** having an **insulated** surface, which are extended in the direction of the rotation axis of the heat-generating member and circumferentially wound along the circumferential direction of the...

...generating member and adapted for allowing the heat-generating member to generate heat with electromagnetic induction; wherein the exciting coil composed of a bundle of **wires** having an **insulated** surface, which are extended in the direction of the rotation axis of the heat-generating member and circumferentially wound along the circumferential direction of the...

...the heat-generating roller to generate heat by exciting the portion where the heat-generating roller is in contact with the fixing belt.
35. The **image heating** device according to claim 34, wherein the width of excitation in the direction in which the fixing belt moves is substantially the same as or not more than the width of the portion where the fixing belt is in contact with the heat-generating roller.
40. The **image heating** device according to claim 38, wherein an exciting **current** having a predetermined frequency is applied to the exciting coil, and the heat-generating roller has a thickness equal to or larger than the skin...

22/TI,PN,PD,PY,K/2 (Item 2 from file: 348)

Cooling structures and package modules for semiconductors.
Kuhlungsstruktur und Verpackungsmodule fur Halbleiter.
Structure de refroidissement et modules d'empaquetage pour semi-conducteurs.
PATENT (CC, No, Kind, Date): EP 512186 A1 921111 (Basic)

...ABSTRACT active layer (113) of a chip (103) in which electric elements are formed and a heat sink (13). The cooling structure (30) consists of a **current**/voltage supply level (34) with metal structures (43, 44, 45) and insulation spacers (46.1, 46.2, 46.3, 46.4) and/or layers, partly ...

...heat transfer bridge (25.1) in thermal connection to the heat transfer structure (48) provides for heat flux between the cooling structure (30) and the **heat** sink (13). (see **image** in original document) (see image in original document)

...CLAIMS elements formed in an active layer (11.3) of a semiconductor chip (10.3) and a heat sink (13), characterized in that it comprises:
- a **current**/voltage supply level (34) formed on said active layer (11.3) and consisting of
  - a **current** conductor wiring (43, 44, 45) as power supply lines and/or signal lines of said electric elements, and
  - insulation spacers (46.1, 46.2, 46.3, 46.4) and/or layers **electrically** separating said **current** conductor wiring
- a **current**/voltage supply level formed on said active layer and consisting of
  - a **current** conductor wiring as power supply lines and/or signal lines of said electric elements, and
  - insulation spacers and/or layers **electrically** separating said **current** conductor **wiring**,
- an **insulation** layer covering said **current**/voltage supply level or selected parts thereof,
- heat transfer means, formed on top of said insulation layer and on uncovered parts of said **current**/voltage supply level and thermally connected to said wiring, its upper surface providing at least one thermal contact area, and
- at least one thermal bridge...

22/TI,PN,PD,PY,K/3 (Item 3 from file: 348)

Vacuum gauge.
Vakuumwandler.
Transducteur de vide.
PATENT (CC, No, Kind, Date): EP 493074 A2 920701 (Basic)
EP 493074 A3 930331
EP 493074 B1 950524

27/TI,PN,PD,PY,K/1 (Item 1 from file: 348)

Molecular beam epitaxy (MBE) effusion source utilizing heaters to achieve temperature gradients.
Effusionsquelle fur Molekularstrahl-Epitaktie mit Heizungselemente zur Erhaltung von Temperatur Gradienten.
Source a effusion pour epitaxie moleculaire MBE utilisant des elements chauffants propres a creer des gradients de temperature.
PATENT (CC, No, Kind, Date): EP 581496 A2 940202 (Basic)
EP 581496 A3 940622

...CLAIMS s internal diameter and said helical wire segments are retained by insulating rings and held in radial alignment to the source axis by a retaining **wire** threading through each **insulator** end.

15. A source in accordance with any preceding claim including means to create a temperature inversion with heating means adapted to apply more **intense heat** toward the open end of the crucible.
16. A furnace for MBE apparatus comprising a source mounting means to position and hold said source within...

...A method of generating molecular beams in accordance with claim 19 further comprising positioning electrical heating element wires so as to avoid extraneous magnetic or **electric** fields generated by **current** flowing through said wires.
21. A method in accordance with claim 19 or claim 20 including adjusting the thermal shields and the heat sinks associated...

27/TI,PN,PD,PY,K/2 (Item 2 from file: 348)

Method to straighten cross linked polyethylene high voltage power cable.
Verfahren zum Ausrichten von Hochspannungsenergiekabeln mit vernetzter Polyathylenisolierung.
Procede pour redresser un cable d'energie haute tension a isolation en polyethylene reticule.
PATENT (CC, No, Kind, Date): EP 578348 A2 940112 (Basic)
EP 578348 A3 940420

...ABSTRACT A2
A method for forming **cable** which is **insulated** with a rigid insulating layer into a desired shape, comprising the steps of wrapping the a portion of the cable with a heater tape that...

...CLAIMS A3
1. A method for forming **cable** which is **insulated** with a rigid insulating layer into a desired shape, comprising the steps of:
wrapping a portion of the cable with a heater tape;
causing the tape to heat the cable portion, so that its insulating layer is heated to a temperature at which it is malleable; and
forming the **cable** portion and its **insulating** layer into the desired shape.
2. The method according to claim 1 wherein the heater tape is removed from the cable before the forming step...

...claim 1, further including the step of allowing the cable to cool.
5. The method according to claim 1 wherein the heating step comprises flowing **electrical current** through leads affixed to the tape to generate heat and transferring the heat to the cable.
6. The method according to claim 5 wherein the...

27/TI,PN,PD,PY,K/3 (Item 3 from file: 348)

Method and apparatus for inhibiting stress corrosion cracking.
Verfahren und Vorrichtung zur Verhinderung von Spannungsrisskorrosion.
Procede et dispositif pour inhiber la fissuration due a la corrosion sous-tension.
PATENT (CC, No, Kind, Date): EP 452582 A1 911023 (Basic)

8. The method as set forth in claim 5 wherein said heat source comprises resistance wire heatable to incandescence by passage of **electrical current** therethrough.

9. The method as set forth in claim 5 wherein said radiant heat comprises both direct and reflected radiant heat emanating from said heat...

...localized tensile stress, and
means for enclosing said radiant heat source and said one surface of said welded joint and workpiece areas adjacent thereto to **concentrate** the application of **heat** thereto.

11. Apparatus as set forth in claim 10 wherein said radiant heat source comprises assemblable modules of a contour complemental to that of the...
...heat source in closely spaced proximity with said workpiece surface.

12. Apparatus as set forth in claim 10 wherein said radiant heat source comprises resistance **wire** supported by **insulating** members.

27/TI,PN,PD,PY,K/4 (Item 4 from file: 349)

IN SITU RECOVERY FROM A HYDROCARBON CONTAINING FORMATION
RECUPERATION IN SITU A PARTIR D'UNE FORMATION CONTENANT DES HYDROCARBURES
Patent and Priority Information (Country, Number, Date):
Patent: WO 200181239 A2-A3 20011101 (WO 0181239)
Publication Year: 2001

Claim
... radially from the opening a width of less than approximately 0. 15 m. 1006. The method of claim. 996, wherein heating the portion comprises applying **electrical current** to an **electric** heater disposed within the opening. 1 5 1007. The method of claim 996, wherein the pyrolysis zone is substantially adjacent to the heat source zone... method of claim. 1137, wherein the production well is located substantially at a geometrical center of the first heat source, second heat souree, and third **heat** source. 1146. The method of claira 1137, further comprising a fourth heat source, flfth heat source, and sixth heat source located along the perimeter of...of claim, 1222, wherein the one or more heat sources comprise flameless distributed combustors. 1227. The method of claim 1222, wherein the one or more **heat** sources comprise

27/TI,PN,PD,PY,K/5 (Item 5 from file: 349)

MULTI-CONDUCTOR SOFT HEATING ELEMENT
ELEMENT CHAUFFANT SOUPLE MULTICONDUCTEUR
Patent and Priority Information (Country, Number, Date):
Patent: WO 200019773 A1 20000406 (WO 0019773)
Publication Year: 2000

English Abstract
...conductive carbon (6) or metal containing threads/fibers of metal wires that are woven together with nonconductive threads, into sheets, sleeves or strips. The individually **insulated** conductive threads/ **fibers** or metal wires (2) can be laminated between layers of nonconductive insulation (14). Nonconductive polymer insulation (14) can be extruded around the non-**insulated** electrically conductive threads/**fibers** or metal wires to form strips, sheets or sleeves/pipes. The electrode conductors (9) are attached to said heating element core (1), which is connected...

Claim
... area of said heater; at least one gap between portions of at least one of said heating strips; a conductive electrode means for introducing an **electrical current** to said heating means;
an insulating means for insulating at least said metal containing textile threads with nonconductive means.
64 A soft and flexible multiconductor heating element having a durable construction for incorporation into a plurality of articles, said heating element
comprising:
at least one continuous strip, comprising multiple, individually **insulated**, electrically conductive **cables** as electrical resistance heating means, said cables are disposed longitudinally in said strip, separated from each other by nonconductive means and connected with said nonconductive means;
an area of **heat concentration** comprising at least one fold along the length of said strip;
at least one temperature sensing device attached to the surface of said strip in the area of
said **heat concentration**;
a conductive electrode means for introducing an **electrical current** to said strip.

27/TI,PN,PD,PY,K/6 (Item 6 from file: 349)

DENTAL PROBE HAVING A SUPERELASTIC PLUGGER ELEMENT AND METHOD OF USE THEREOF
SONDE DENTAIRE COMPRENANT UN FOULOIR SUPERELASTIQUE ET PROCEDE DE FABRICATION ASSOCIE
Patent and Priority Information (Country, Number, Date):
Patent: WO 9927882 A1 19990610
Publication Year: 1999

English Abstract
...shape. The tip (18) may be heated rapidly, and it provides rapid heating of the instrument, continuous supply of heat for the purpose desired, and **concentration** of maximum **heat** at the end of the tip (18). The added flexibility allows the tip to follow the curvature of a canal (66) of a tooth (60...

Claim
... to the power control and
including a handle operatively connected to an elongate superelastic plugger
element, the superelastic plugger element forming a resistance heater receiving **electrical current** from the power control and
having at least a
portion thereof formed of superelastic material;
1 0 whereby an operator may insert the superelastic plugger...

...from the root canal.
1 5 2. The apparatus of claim 1 wherein the superelastic plugger element is a hollow, needle shaped member receiving an **insulated wire**.

11 The probe of claim 1 0 wherein the superelastic plugger element is a hollow, needle shaped member receiving an **insulated wire** to
form a resistance heater.
1 0 1 2. The probe of claim 1 1 wherein the hollow, needle shaped member is formed of a...plugger tip of claim 1 9 wherein the superelastic plugger
element is a hollow, needle shaped member and the insulated, electrically conductive element is an **insulated wire**.

08/01/2002 09/437,226

34/TI,PN,PD,PY,K/1 (Item 1 from file: 348)
DIALOG(R)File 348:(c) 2002 European Patent Office. All rts. reserv.

An improved temperature compensated electrochemical gas sensor and method for closely tracking the temperature variations of a gas to be sensed
PATENT (CC, No, Kind, Date): EP 819936 A1 980121 (Basic)
An Electrochemical Gas Sensor having a temperature sensitive element such as a **thermistor** arranged within the gas sensor in a temperature insulative fashion for preventing any variations in the temperature of the applied gases to be sensed to...

...the temperature sensitive element thereby providing accurate temperature compensation signals to be combined with the generated sensor electrical output signals. The temperature sensitive element or **thermistor** is mounted in a heat sink to the expansion membrane of the gas sensor to be responsive only to changes in the temperature variations imparted by the sensor **electrolyte** and not by the variations in the temperature of the gas sensor body and associated elements thereby providing correct temperature compensation signals without error producing...

...CLAIMS electrical output signals representative of the sensed concentrations, said gas sensor comprising
an insulative sensor container having an open end and adapted for storing a **liquid electrolyte** in the containe
.to said cathode,
an expansion membrane mounted within said sensor container and being spaced a preselected distance from said open end and for storing an **electrolyte** in the volume between said gas permeable membrane and the expansion membrane,
a **liquid electrolyte** stored in the volume between said gas permeable membrane and the expansion membrans,
means for defining an anode electrode mounted in the **electrolyte** adjacent the expansion membrane, the improvement comprising **thermistor** means mounted adjacent to the expansion membrane in a substantially **thermal** isolated relationship with respect to the temperature of the gases to be sensed that are conveyed to said gas permeable membrane so that any change in the temperature of the gas to be sensed is not directly conveyed to the **thermistor** membrane,
the **thermistor** means including **insulated** lead **wires** extending therefrom for deriving temperature compensating electrical signals from said gas sensor, and
arranging said leads with said **thermal** insulative means so as to be contained within said insulative means to prevent temperature changes to be conducted to said **thermistor** means and to be accessible outside of the gas sensor.

34/TI,PN,PD,PY,K/2 (Item 1 from file: 349)

THERMOGRAPHIC WIRING INSPECTION
INSPECTION THERMOGRAPHIQUE DE CABLAGE
Patent and Priority Information (Country, Number, Date):
Patent: WO 200011484 A1 20000302 (WO 0011484)
Publication Year: 2000
English Abstract
A method for inspecting a wire, a cable or a bundle of wires to locate those parts of said wires or **cables** having damaged **insulation** before failure of the wire or cable occurs, the method comprising the steps of: passing a current through said wire or cable, applying a **fluid** having **electrolytic properties** to said wire, cable or bundle of wires, using an infra-red **thermal** imaging system to detect and display the intensity of heat emanating from said wire or cable following addition of the fluid.

laim
1 A method for inspecting the integrity of the **insulation** of a **wire** or cable including the steps of;
passing a current through said wire or cable,
applying a **fluid** having **electrolytic properties** to said wire or cable, and
using a **thermal** imaging system to detect and display the intensity of heat emanating from said wire or cable.

2 A method for inspecting the integrity of the **insulation** of a **wire** or cable as claimed in claim 1 wherein the **thermal** imaging system comprises an infra-red detector and a display monitor.

24 A method for inspecting the integrity of the **insulation** of a **wire** or cable as claimed in any preceding claim wherein said **thermal** imaging system is used to detect and display the intensity of heat emanating from the wire or cable prior to the application of said fluid, to provide datum values of heat emission.
Fig
STEP 1 Prepare wire to be tested
STEP 2 Pass current
through wire
Use infra red **thermal**
STEP 3 imaging system to detect
and display intensity of
heat emanating from wire
I
STEP 4 Determine amount of
electrolyte to add
STEP 5 Spray **electrolyte** over
area of wire to be tested
I
Use infra red **thermal** imaging

STEP 6 system to detect and display intensity of heat emanating from wire
Identify those parts of the STEP 7 wire having a high...

08/01/2002 09/437,226

34/TI,PN,PD,PY,K/3 (Item 2 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.

MECHANICAL AND **THERMAL** IMPROVEMENTS IN METAL HYDRIDE BATTERIES, BATTERY MODULES AND BATTERY PACKS
Patent: WO 9831059 A1 19980716
Publication Year: 1998

Mechanically and **thermally** improved rechargeable batteries, modules and fluid-cooled battery systems are disclosed herein. The battery is prismatic in shape with an optimized thickness to width to...

...The width of the coolant flow channels allows for maximum heat transfer. Finally, the batteries, modules and packs can also include means for providing variable **thermal** insulation to at least that portion of the rechargeable battery system which is most directly exposed to ambient **thermal** conditions, so as to maintain the temperature of the system within the desired operating range thereof under variable ambient conditions.
strength to said plates, and slots for said metal tubing.

31 The fluid cooled battery-pack system of claim 29, wherein said end plate are **thermally** isolated from said batteries bundled within said module.

32 The fluid cooled battery-pack system of claim 30, wherein said ribs provide added **thermal** dissipation for said batteries within said module.

33 The fluid cooled battery-pack system of claim 24, wherein each of said battery modules includes module...

36 The fluid cooled battery-pack system of claim 24, wherein said electrical interconnects are braided cable interconnects, which provide for high **thermal** dissipation and flexibility of module design/configuration.
37 The fluid cooled battery-pack system of claim 36, wherein said braided cable electrical interconnects are formed...said separator electrically insulating said positive electrode from said negative electrode, but still allowing
for chemical interaction of said positive and negative electrodes; and battery **electrolyte** disposed within said battery case, said battery **electrolyte** surrounding and wetting said positive electrode, said negative
electrode, and said separator;

44 The fluid cooled battery-pack system of claim 43, wherein said battery case is formed from a material which is **thermally** conductive,
mechanically strong and rigid, and resistant to corrosion.

45 The fluid cooled battery-pack system of claim 43, wherein said battery case is formed...The fluid cooled battery-pack system of claim 45, wherein the

interior of said metal prismatic battery case is electrically insulated from the electrodes and **electrolyte**.

69 The **fluid** cooled battery-pack system of claim 68, wherein the interior of said metal prismatic battery case is electrically insulated from the electrodes and **electrolyte** by coating the interior of said battery case with and electrically insulating polymer material.

85 The battery module of claim 73, wherein said electrical interconnects are braided cable interconnects, which provide for high **thermal** dissipation and flexibility of module design/configuration.
. The battery module of claim 85, wherein said braided cable electrical interconnects are formed from copper, copper alloy...
...said separator electrically insulating said positive electrode from said negative electrode, but still allowing for chemical interaction between said positive and negative electrodes- and battery **electrolyte** disposed within said battery case, said battery **electrolyte** surrounding and wetting said ...thickness to width to height aspect ratio.

117. The battery module of claim 94, wherein the interior of said metal prismatic battery case is electrically insulated from the electrodes and **electrolyte**.
118. The battery module of claim 117, wherein the interior of said metal prismatic battery case is electrically insulated from the electrodes and **electrolyte** by a coating of electrically insulating polymer material on the interior of said battery case.
119. The battery module of claim 117, wherein the interior of said metal prismatic battery case is electrically insulated from the electrodes and **electrolyte** by placing the electrodes and **electrolyte** in a polymer bag which is sealed and inserted into the battery case.
120. The battery module of claim 92, wherein said negative electrodes are formed from **thermally** conductive sintered metal hydride electrode material.
. The battery module of claim 120, wherein said **thermally** conductive sintered metal hydride electrodes are in **thermal** contact with the battery case.
157. The rechargeable battery system of claim 156, wherein said **thermal** sensors includes electronic sensors, said compressible **thermal**
insulation means includes a compressible foam or **fiber insulation** and said means to compress the compressible **thermal** insulation means includes piston devices which variably increases or decreases the compression upon the compressible foam or **fiber insulation** in response to signals from the electronic sensors.
SUBSTITUTE SHEET (RULE 26)

38/TI,PN,PD,PY,K/1 (Item 1 from file: 349)

THERMOGRAPHIC WIRING INSPECTION
INSPECTION THERMOGRAPHIQUE DE CABLAGE
Patent and Priority Information (Country, Number, Date):
Patent: WO 200011484 A1 20000302 (WO 0011484)
Publication Year: 2000

A method for inspecting a wire, a cable or a bundle of wires to locate those parts of said wires or cables having damaged **insulation** before failure of the wire or cable occurs, the method comprising the steps of: passing a **current** through said wire or cable, applying a fluid having **electrolytic properties** to said wire, cable or bundle of wires, using an infra-red thermal imaging system to detect and display the **intensity** of **heat** emanating from said wire or cable following addition of the fluid.

Claim

1 A method for inspecting the integrity of the **insulation** of a wire or cable including the steps of;
passing a **current** through said wire or cable,
applying a fluid having **electrolytic properties** to said wire or cable, and
using a thermal imaging system to detect and display the **intensity** of **heat** emanating from said wire or cable.

2 A method for inspecting the integrity of the **insulation** of a wire or cable as claimed in claim 1 wherein the thermal imaging system comprises an infra-red detector and a display monitor.

3 A method for inspecting the integrity of the **insulation** of a wire or cable as claimed in claim 1 or claim 2 wherein recording means are provided for recording images displayed by the thermal imaging system.

13 A method for inspecting the integrity of the **insulation** of a wire or cable as claimed in claim 12 wherein leakage **current** measuring means are provided to measure said leakage **current**. - 14

14 A method for inspecting the integrity of the **insulation** of a wire or cable as claimed in claim 13, wherein said leakage **current** measuring means comprises an ammeter.

24 A method for inspecting the integrity of the **insulation** of a wire or cable as claimed in any preceding claim wherein said thermal imaging system is used to detect and display the **intensity** of **heat** emanating from the wire or cable prior to the application of said fluid, to provide datum values of heat emission.

Fig
STEP 1 Prepare wire to be tested
STEP 2 Pass **current**

through wire
Use infra red thermal
STEP 3 imaging system to detect
and display **intensity** of
heat emanating from wire

43/TI,PN,PD,PY,K/1 (Item 1 from file: 348)

Exhaust gas sensor and system thereof
Abgassensor und System unter Verwendung dieses Sensors
Capteur pour gaz d'echappement et systeme utilisant ce capteur
PATENT (CC, No, Kind, Date): EP 851225 A2 980701 (Basic)
EP 851225 A3 000524

...ABSTRACT or out of the space 15 so that the electromotive force is held at an target value EC not more than 10 mV. The pump **current** at this time is taken as the detection output on the constituent to be detected. The strengths of the oxygen concentration cell element 4 and...

CLAIMS detecting a constituent to be detected which is contained in exhaust gas, the exhaust gas sensor comprising:
an oxygen concentration cell element (4) comprising solid **electrolyte** which has an oxygen-ion conductivity, and having on both surfaces electrodes (12,13) which have an oxygen permeability, one of the electrodes (12) facing...
detecting a constituent to be detected which is contained in exhaust gas, the exhaust gas sensor comprising:
an oxygen concentration cell element (4) comprising solid **electrolyte** which has an oxygen-ion conductivity, and having on both surfaces electrodes (12,13) which have an oxygen permeability, one of the electrodes (12) facing...
the electromotive force is set within the range not less than (EOS - 5) mV and not more than (EOS + 5) mV;
the value of a **current** flowing through the oxygen pump element at the time when the absolute value of the concentration cell electromotive force of the oxygen concentration cell element...is formed, with use of the same material and condition as the second or third electrode, on a disc of the oxygen-ion-conductive solid **electrolyte** having a diameter of 12 mm and a thickness of 1 mm is placed in a cylindrical body (73) having a gas inlet (71) and...

16. An exhaust gas sensor (1) as claimed in claim 15 wherein the space-forming member is a plate-like heater element (5) for **heating** the oxygen **concentration** cell element to the operating temperature of the sensor.

43/TI,PN,PD,PY,K/2 (Item 2 from file: 348)

Electrochemical cell
Elektrochemische Zelle
Generateur electrochimique
PATENT (CC, No, Kind, Date): EP 534806 A1 930331 (Basic)
EP 534806 B1 970723

...ABSTRACT C. The cathode active material is silver vanadium oxide or other metal oxide or a metal oxide bronze or carbon monofluoride. The solvent for the **electrolyte** has a boiling point greater than about 100 degrees C. and a **dielectric** constant greater than about 5 so that the cell may be dimensionally and chemically stable during repeated exposures of about one hour each to the...

43/TI,PN,PD,PY,K/3 (Item 3 from file: 348)

Method for making a layer of manganese dioxide of solid **electrolyte** capacitors.
Verfahren zum Herstellen einer Mangandioxidschicht von Fest-Elektrolytkondensatoren.
Procede de fabrication d'une couche en dioxyde de manganese de condensateurs a **electrolyte** solide.
PATENT (CC, No, Kind, Date): EP 325203 A1 890726 (Basic)
EP 325203 B1 930908

In making solid **electrolyte** capacitors, the pores in the valve metal sintered bodies formed are first almost completely filled with manganese dioxide which is produced by pyrolysis of solutions...

...surface of the heated sintered bodies and the pyrolysis is completed in a flowing steam mist at temperatures of 200 to 350 C. The residual **currents** IR)) of such capacitors (curve 1) reveal no rejects after 1,000 hours continuous testing at 85 C and 95 % relative humidity, whereas conventionally produced...

...CLAIMS B1
1. Method of producing a manganese dioxide layer for solid-**electrolyte** capacitors having a sintered anode body made of a valve metal, an oxide layer disposed on the anode body and serving as **dielectric**, a semiconducting manganese dioxide **electrolyte** layer which is disposed on the oxide layer and is produced by repeated immersion in a solution or melt containing manganese nitrate followed by pyrolytic...

43/TI,PN,PD,PY,K/4 (Item 4 from file: 348)

Oxygen sensing element formed as laminate of thin layers on substrate provided with heater and lead wires.
Sauerstoffsensor, hergestellt aus mehreren dunnen Schichten auf einem mit einer Heizung und Verbindungsleitern versehenen Substrat.
Capteur d'oxygene constitue d'un empilement de pellicules minces sur un substrat muni d'un dispositif de chauffage et de fils de connexion.
PATENT (CC, No, Kind, Date): EP 58898 A1 820901 (Basic)
EP 58898 B1 850724

...ABSTRACT element formed as laminate of thin layers on substrate provided with heater and lead wires.

An oxygen sensing element of the type having a solid **electrolyte** oxygen concentration cell formed as a laminate of thin layers (128, 130, 132, 134) on a ceramic substrate (116) in which a heater (118) is embedded and tip portions of lead wires (22, 24, 26) are inserted. To enhance reliability of **insulation** between a lead wire (22) through which a **current** flows to the heater (118) and the lead wires (24, 26) connected to the concentration cell, the tip portion of this lead (22) wire is...

...Accordingly, even though a carbonaceous substance deposits on the substrate surface during practical use of the element there is no possibility of leaking of the **heating current** to the **concentration** cell.

43/TI,PN,PD,PY,K/5 (Item 5 from file: 349)

PROCESS AND GAS GENERATOR FOR GENERATING FUEL GAS
PROCEDE ET GENERATEUR DE GAZ DESTINES A LA PRODUCTION DE GAZ DE COMBUSTION
Patent and Priority Information (Country, Number, Date):
Patent: WO 200246332 A2 20020613 (WO 0246332)
Publication Year: 2002
downward stream. The upper portion of the bed representing the dry distillation zone will then be run with the gas flow -passing upwards in counter-**current** with the bed solids. The lower portion representing the gasification zone is operated with the gas flow therein passing downwards in co-**current** with the bed solids. The dry distillation volatiles of the ...turbine generator unit for the generation of electrical energy. Of substantial importance is the utilisation of part of the electrical energy thereby generated for the **electrolytic** production of hydrogen as an optionally storable source of energy, oxygen thereby formed being re-admixed to the oxygen-containing gas to be introduced into...g., waste wood, straw bales or even bio-garbage which is di fficult to rot or plastics containing metal such as wastes from metal reinforced **insulating** materials or old tyres are introduced by way of a solids feed 1 into a dry distillation reactor 2 and are there heated, dried thereby...non-combustible solids components such as wire scraps emerge from the lower end of the dry distillation reactof at a discharge locality,22. In counter-**current** to this direction of conveyance of the solids in the solids particle bed in the direction of gravity 21, the dry distillation volatiles; formed in...

...volatiles condensed thereon re-enter the regions where partial combustion of the solids takes place. The condensed volatiles are thus subjected once again to relatively **intense heat** treatment whereby they are at least in part combusted together with the solids and also subjected to a degree of cracking. These effects contribute to...

43/TI,PN,PD,PY,K/6 (Item 6 from file: 349)

HYDROGEN ACTIVATED HEAT GENERATION APPARATUS
APPAREIL DE GENERATION DE CHALEUR ACTIVE A L'HYDROGENE
Patent and Priority Information (Country, Number, Date):
Patent: WO 9428197 A2 19941208
Publication Year: 1994

English Abstract
...which may include pre-cooling on the heat output side or electrical heating of the host metal, provide the initial temperature gradient triggering fusion. Alternating **current** activation of the magnetic field, the intensity of which may be enhanced by using nickel as the host metal, combined with a non-uniformity of...

Claim
... the magnetic field, whereas the y axis provides an electric field axis which is bounded at one surface of the metal core unit by electrical **insulation** which precludes electric **current** flow and provides at the opposite surface an entry path for hydrogen.
4 , Heat generation apparatus according to claim 1, wherein the magnetizing means has a **current** excitation winding and the configuration
of the metal core unit is shaped to ensure that heat conducted through the core unit passes through a magnetic field of progressively different intensity in relation to the **intensity** of **heat** conductio
5 . Heat generation apparatus according to claim 4, wherein the metal core unit is of tubular form having heat transfer surfaces comprising the inner and outer tube surfaces, and the **current** excitation means causes
electric **current** to flow through it in an axial sense, whereby a circumferential magnetic field of diminishing strength with increase in radial position is produced, thereby setting...of contact with the heat transfer surface of the metal core unit.
15 Heat generation apparatus comprising a tubular assembly of tubular housings separated by heat **insulating** gaskets adapted to be filled with a
fluid from which hydrogen isotope ions can be adsorbed into a cathode
1 0 sleeve located within each housing, a rod conductor serving as an anode
and positioned along the central axis of the tubular assembly, magnetically inductive heating means responsive to electrical **current**
oscillations in the anode conductor and located within each housing and positioned at one end thereof in thermal contact with one end of the
electric **current** in the anode rod conductor which produces a polarizing
magnetic field in a cathode sleeve directed circumferentially around the axis and (c) sustains a d. c. bias potential between anode and cathode which serves as the **electrolysis** agent in promoting adsorption of the

08/01/2002 09/437,226

43/TI,PN,PD,PY,K/7 (Item 7 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.

CELL ARRANGEMENT FOR ELECTROMETALLURGICAL PURPOSES, IN PARTICULAR ALUMINUN **ELECTROLYSIS**
AGENCEMENT DE CELLULES DESTINE A ETRE UTILISE EN ELECTROMETALLURGIE, ET EN PARTICULIER POUR L'**ELECTROLYSE** DE L'ALUMINIUM
Patent and Priority Information (Country, Number, Date):
Patent: WO 8700211 A1 19870115
Publication Year: 1987
laim
Cell arrangement for electrometallurgical purposes, in particular aluminum **electrolysis**, comprises a cell box having an internal refractory lining in its bottom (1') and walls (1), an anode (50), a heat exchanger (6, 6', 51...

...6A, 6B, 6C) with associated pipe fittings or pieces (7A, 7Bt 7Ct 91 9A) and possibly valves (8A. 8Br 8C) as well as a heat **insulating** layer (11) outside the cooling chambers and around the pipe fittings, possibly the valves,

4/TI,PN,PY,PD,K/1 (Item 1 from file: 349)

THERMOGRAPHIC WIRING INSPECTION
INSPECTION THERMOGRAPHIQUE DE CABLAGE
Patent and Priority Information (Country, Number, Date):
Patent: WO 200011484 A1 20000302 (WO 0011484)
Publication Year: 2000

Fulltext Availability:
Claims

English Abstract
A method for inspecting a wire, a cable or a bundle of wires to locate those parts of said wires or **cables** having damaged **insulation** before failure of the wire or cable occurs, the method comprising the steps of: passing a **current** through said wire or cable, applying a **fluid** having **electrolytic** properties to said wire, cable or bundle of wires, using an infra-red thermal **imaging** system to detect and display the intensity of heat emanating from said wire or cable following addition of the fluid.

French Abstract
...panne ne survienne. Le procede comprend les etapes suivantes: application d'un courant au fil, au cable ou au faisceau considere, puis application d'un **fluide** ayant des proprietes **electrolytiques** et, enfin, utilisation d'un systeme d'imagerie thermique a infrarouge pour deceler et visualiser l'intensite de chaleur emanant de l'element inspecte, suite...

Claim
1 A method for inspecting the integrity of the **insulation** of a **wire** or cable including the steps of;
passing a **current** through said wire or cable,
applying a **fluid** having **electrolytic** properties to said wire or cable, and
using a thermal **imaging** system to detect and display the intensity of heat emanating from said wire or cable.

2 A method for inspecting the integrity of the **insulation** of a **wire** or cable as claimed in claim 1 wherein the thermal **imaging** system comprises an infra-red detector and a display monitor.

3 A method for inspecting the integrity of the **insulation** of a **wire** or cable as claimed in claim 1 or claim 2 wherein recording means are provided for recording **images** displayed by the thermal **imaging** system.

4 A method for inspecting the integrity of the **insulation** of a **wire** or cable as claimed in claim 2wherein the infra-red detector is a thermal **imaging** camera.

8 A method for inspecting the integrity of the **insulation**

of a **wire** or cable as claimed in claim 3 wherein said recording means is adapted to allow displayed **images** to be stored on computer disks.
9 A method for inspecting the integrity of the **insulation** of a **wire** or cable as claimed in claim 3 wherein said recording means is adapted to allow **images** to be stored on video tape.

10 A method for inspecting the integrity of the **insulation** of a **wire** or cable as claimed in claim 3 wherein said **images** are displayed as calibrated spacial thermal **images**.
26 A method for inspecting the integrity of the **insulation** of a **wire** or cable substantially as hereinbefore described and with reference to Figures la and lb or Figure 2 or Figure 3 of the accompanying drawings.
/3RULE 26)
/3
Fig
STEP 1 Prepare wire to be tested
STEP 2 Pass **current** through wire
Use infra red thermal
STEP 3 **imaging** system to detect and display intensity of heat emanating from wire
I

14/TI,PN,PY,PD,K/2 (Item 2 from file: 349)

METHOD AND APPARATUS FOR DOPING A SOLID MATERIAL
PROCEDE ET APPAREIL POUR DOPER UN MATERIAU SOLIDE
Patent and Priority Information (Country, Number, Date):
Patent: WO 9420991 A1 19940915
Publication Year: 1994

. the solid film 2 comprises piezoelectric transducers controlled by a voltage source, a feedback position controller, and a comparator to minimize the difference between the **current** flowing through the tip I and a constant reference **current**.
Further, the apparatus comprises a source to apply a voltage Vo between the film 2 and the tip 1. The tip 1 itself consists of...

...diffraction indicate that the film is single phase c-axis oriented with a value of the c-axis of 1.30984 nm. Atomic force microscopy **pictures** taken from the surface reveal a relatively
smooth surface with a roughness of +/- 5 nm. No large precipitates on the surface are detectable.
The film...

...of 1N
KOH. Electrical contacts to the film are made using a platinum wire and silverpaint. Afterwards, the contact area as well as the platinum **wire** are **insulated** from the electrolyte 5 using silicone rubber material. The tip 1 then is brought into a distance d of approximately 0.5pm to the film...additional oxygen. The difference in lattice parameter
between the oxidized and not oxidized sample is of the order of 0.005 nm. Atomic force microscope **images** show locally that the surface morphology did not change drastically.. The features observed previously
9
are slightly smeared out. Resistivity measurements indicate a superconducting onset...for doping a semiconductive or conductive solid material by
using an electrochemical cell with at least two electrodes, one being the solid material, and an **fluid electrolyte** which contains the dopant,
and applying a voltage between the two electrodes to create an elec tric field between them,
wherein the electric field is...

...of the claims 3, 4, or 5, wherein the
movement of at least one of the electrodes (1,2,6) is controlled by using a **current** or voltage controlled feedback loop and at least one
transducer, in particular a piezoelectric transducer.
11
. Method in accordance with claim 1, wherein the solid...

8/1/02

Examiner Patel,

Re: 09/437,226

Please find attached edited first-pass search results from the patent and non-patent commercial abstract and full-text databases. The search strategy was based on the information you provided on the request form. Tagged records might be worth your review as well as the rest of the references provided.

If you have any further questions, please let me know.

Thank You,

Irina Speckhard
308-6559
STIC-EIC2800
CP4-9C18

EIC2800
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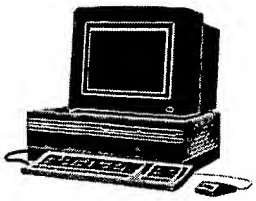
Feedback Form (Optional)



Scientific & Technical Information Center

The search results generated for your recent request are attached. If you have any questions or comments (compliments or complaints) about the scope or the results of the search, please contact ***the EIC searcher*** who conducted the search ***or contact***:

Jeff Harrison, Team Leader, 306-5429

Voluntary Results Feedback Form

- *I am an examiner in Workgroup:* [ ] *Example:* [2830]
- *Relevant prior art **found**, search results used as follows:*
  - ☐ 102 rejection
  - ☐ 103 rejection
  - ☐ Cited as being of interest.
  - ☐ Helped examiner better understand the invention.
  - ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
  (journal articles, conference proceedings, new product announcements etc.)

- *Relevant prior art **not found**:*
  - ☐ Results verified the lack of relevant prior art (helped determine patentability).
  - ☐ Search results were not useful in determining patentability or understanding the invention.

Other Comments:

Drop off completed forms in **CP4-9C18,** or send to **Jeff Harrison, CP4-9C18.**

```
  01aug02 09:30:47 User267149 Session D253.1

SYSTEM:OS  - DIALOG OneSearch
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  File 315:ChemEng & Biotec Abs  1970-2002/May
         (c) 2002 DECHEMA
```

Set	Items	Description
S1	29498	(INSULAT?????? OR DIELECTRIC???)(3N)(WIRE? ? OR WIRING OR FIBER? ? OR FIBRE? ? OR CABLE? ?)
S2	2314925	CURRENT? ? OR (ELECTRIC??????(3N)CHARG??????)
S3	1566698	FLUID? ? OR LIQUID? ?(3N)(ELECTROLYT?????? OR ELECTROLYS??-????)
S4	9750	(ELECTROLYT?????? OR ELECTROLYS??????)(3N)PROPERT??????
S5	394438	(ELECTROLYT?????? OR ELECTROLYS??????)
S6	22050	(THERMAL?????? OR THERMO??????? OR HEAT??????)(3N)(IMAGE? ? OR IMAGING)
S7	578	GRAPHIC??????(3N)THERM??????
S8	48770	(INTENS?????? OR DEGREE OR CONCENTRAT??????)(3N)(HEAT?????-?)
S9	4367	S1 AND S2
S10	67	S9 AND S3
S11	0	S10 AND S4
S12	3	S10 AND S5
S13	3	RD (unique items)
S14	64	S10 NOT S13
S15	0	S14 AND S6
S16	0	S14 AND S7
S17	0	S14 AND S8
S18	0	S9 AND S4
S19	37	S9 AND S5
S20	32	RD (unique items)
S21	64	S14 NOT S19
S22	8	S9 AND S6
S23	5	RD (unique items)
S24	0	S9 AND S7
S25	7	S9 AND S8
S26	7	RD (unique items)
S27	7	S26 NOT S23
S28	220	S1 AND (S4 OR S5 OR S6)
S29	0	S28 AND S8
S30	11	S28 AND S3
S31	9	RD (unique items)
S32	7	S31 NOT S27,S23,S20,S13

13/3,AB/1 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

6650802 INSPEC Abstract Number: B2000-08-8130B-029
Title: Active cathodic protection system for 345 kV self-contained **fluid**-filled submarine cable
Author(s): Schwabe, R.J.; Troisi, J.F.; Zelinger, S.; Bascom, E.C., III; Poliakov, A.V.; Iossel, Y.Y.
Author Affiliation: New York Power Authority, White Plains, NY, USA
Conference Title: International Conference on Large High Voltage Electric Systems. CIGRE'98. Session Papers Part vol.6 p.9 pp. vol.6
Publisher: CIGRE, Paris, France
Publication Date: 1998 Country of Publication: France 17 vol.(106+218+140+150+138+134+194+106+56+138+70+66+106+136+146+216+98) pp.
Material Identity Number: XX-2000-00802
Conference Title: Proceedings of 37th Sessions (Large High Voltage Electric Systems)
Conference Date: 30 Aug.-5 Sept. 1998 Conference Location: Paris, France
Language: English
Abstract: This paper describes results from studies on the New York Power Authority's 345 kV self-contained **fluid**-filled submarine cables aimed at identifying potential detrimental effects from galvanic and **electrolytic** corrosion. The results from laboratory investigations are presented which identify cable components affected by electrochemical action on the cables' outer layers, along with stray **current** measurements which were performed along the cable route in Long Island Sound. The outcome of this study was the design and implementation of an active cathodic protection system on the cable system, an overview of which is described in this paper.
Subfile: B

13/3,AB/2 (Item 1 from file: 6)
DIALOG(R)File 6:NTIS

1021981 NTIS Accession Number: PB83-170712
Safe Organic Insulations and **Fluids** for Permissible Enclosures
(Rept. for 27 Sep-27 Jun 80)
Paciorek, K. L. ; Kratzer, R. H. ; Lee, F. F. C. ; Nakahara, J. H.
Ultrasystems, Inc., Irvine, CA.
Corp. Source Codes: 057155000
Sponsor: Bureau of Mines, Washington, DC.
Report No.: BUMINES-OFR-16-83
Jun 80 168p
Languages: English
Journal Announcement: GRAI8313
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)321-8547; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
NTIS Prices: PC A08/MF A01
Explosion-proof electrical enclosures contain a variety of organic insulating materials of differing nature and chemical composition. When subjected to thermal and/or electric stress, organic insulators may be potentially hazardous owing to moist tracking and thermal oxidative degradation. Organic materials utilized as **cable** jacketing, **cable insulation**, standoffs, **insulating** boards, and potting compositions were identified and a literature survey performed to obtain the required thermal oxidative and moist tracking data. Thirty representative compositions were procured and subjected to thermal and moist tracking evaluations. Tracking was found to invariably result in ignition or glow of the test specimen. Influence of parameters such as **electrolyte** strength and composition, temperature, conductor spacing, and electrode material were investigated. Volatiles produced by selected insulators on thermal oxidative and electrical stress were identified, quantitated, and their potential impairment action upon a **current** interrupter assessed.

13/3,AB/3 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

02577438
E.I. Monthly No: EIM8805-025145
Title: 1987 ANNUAL REPORT: CONFERENCE ON ELECTRICAL INSULATION AND DIELECTRIC PHENOMENA.
Author: Anon
Conference Title: 1987 Annual Report: Conference on Electrical Insulation and Dielectric Phenomena.
Conference Location: Gaithersburg, MD, USA Conference Date: 19871018
E.I. Conference No.: 10863
Source: Annual Report - Conference on Electrical Insulation and Dielectric Phenomena 1987. Publ by IEEE, New York, NY, USA. Available from IEEE Service Cent (Cat n 87CH2462-0), Piscataway, NJ, USA 540p
Publication Year: 1987
CODEN: CEIPAZ ISSN: 0084-9162
Language: English
Abstract: The following topics are dealt with: breakdown processes in insulating materials; polarization charge and field mapping; charge storage and transport; high-field engineering, measurement techniques; partial discharges; transformer oil; extruded **dielectric** power **cables**; solid, liquid and gaseous dielectrics; treeing phenomena; hexane; propylene films; electrodes; **electrolyte** solutions; **liquid** crystals; spark gaps; switchgear; semiconductors; rubber; polymers; epoxy resins; photoconductivity; plasmas; Kerr electrooptic technique; electro-acoustics; piezoelectricity; XLPE cables; and laser applications.

19/3,AB/1 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

6650802 INSPEC Abstract Number: B2000-08-8130B-029
Title: Active cathodic protection system for 345 kV self-contained fluid-filled submarine cable
Author(s): Schwabe, R.J.; Troisi, J.F.; Zelinger, S.; Bascom, E.C., III; Poliakov, A.V.; Iossel, Y.Y.
Author Affiliation: New York Power Authority, White Plains, NY, USA
Conference Title: International Conference on Large High Voltage Electric Systems. CIGRE'98. Session Papers Part vol.6 p.9 pp. vol.6
Publisher: CIGRE, Paris, France
Publication Date: 1998 Country of Publication: France 17 vol.(106+218+140+150+138+134+194+106+56+138+70+66+106+136+146+216+98) pp.
Material Identity Number: XX-2000-00802
Conference Title: Proceedings of 37th Sessions (Large High Voltage Electric Systems)
Conference Date: 30 Aug.-5 Sept. 1998 Conference Location: Paris, France
Language: English
Abstract: This paper describes results from studies on the New York Power Authority's 345 kV self-contained fluid-filled submarine cables aimed at identifying potential detrimental effects from galvanic and **electrolytic** corrosion. The results from laboratory investigations are presented which identify cable components affected by electrochemical action on the cables' outer layers, along with stray **current** measurements which were performed along the cable route in Long Island Sound. The outcome of this study was the design and implementation of an active cathodic protection system on the cable system, an overview of which is described in this paper.
Subfile: B

19/3,AB/2 (Item 2 from file: 2)
DIALOG(R)File 2:INSPEC

5904165 INSPEC Abstract Number: B9806-8130B-009
Title: Installation of 66 kV XLPE **insulated** submarine **cable** in the Naoshima Island
Author(s): Kawaguchi, K.; Taniguchi, M.; Mitsumoto, M.; Inami, M.; Saitoh, H.; Motogoshi, N.
Journal: Mitsubishi Cable Industries Review no.93 p.1-7
Publisher: Mitsubishi Cable Industries,
Publication Date: March 1998 Country of Publication: Japan
CODEN: MCIRE5 ISSN: 0913-0101
SICI: 0913-0101(199803)93L.1:IXIS;1-8
Material Identity Number: K598-98001
Language: Japanese
Abstract: The existing 66 kV submarine oil-filled cable between Hibi Seashore and Koojinjima Island was severely damaged in June 1996. Mitsubishi Cable Ind., Ltd. Was awarded a full turnkey contract for the supply and installation for the whole length of 2400 m. An optical fiber composite 66 kV 3*500 mm/sup 2/ submarine XLPE cable was employed instead of the oil-filled cable. In the cable, one unit of 12 cores, a single-mode optical fiber and three pairs of conventional communication units were compounded. The XLPE cores and fiber units have a longitudinal tight construction in order to prevent water ingress into the cable in the event of external damage. Investigation of the dismantled cable revealed that corrosion of the steel wire armour had been caused by an electromotive force generated by terrestrial magnetism and the tidal **current**. Therefore, protection measures against **electrolytic** corrosion were taken. The armour consists of two layers of steel wires. Each steel wire in the inner layer was individually covered by extruded polyethylene and an additional polyethylene jacket was applied between the two layers of wire armour as an anti-**electrolytic** corrosion layer. Finally, the cable has a diameter of approx. 190 mm and weights approx. 85 kg per meter, making it the largest submarine cable in the world. After a test for electrical and mechanical properties of the cable, the results proved to be satisfactory and the cable was successfully laid in May 1997. The completion test was executed on 7th June and the transmission line was put into service on 12th June in the same year.
Subfile: B

19/3,AB/3 (Item 3 from file: 2)
DIALOG(R)File 2:INSPEC

5665681 INSPEC Abstract Number: B9709-8130H-017
Title: The behaviour of medium voltage cable terminations at artificial pollution
Author(s): Barsch, R.; Lambrecht, J.; Pilling, J.; Weichold, J.; Haim, K.D.
Author Affiliation: Wirtschaft & Socialwesen, Hochschule fur Tech., Gorlitz, Germany
Conference Title: CIRED. 14th International Conference and Exhibition on Electricity Distribution. Part 1: Contributions (Conf. Publ. No.438) Part vol.3 p.14/1-5 vol.3
Publisher: IEE, London, UK
Publication Date: 1997 Country of Publication: UK 7 vol. (xxxi+254+vi+180+228+ix+238+vi+196+166+224) pp.
ISBN: 0 85296 674 1 Material Identity Number: XX97-01549
Conference Title: Proceedings of 14th Biennial International Conference and Exhibition on Electricity Distribution (Distributing Power for the Millennium)
Conference Date: 2-5 June 1997 Conference Location: Birmingham, UK
Language: English
Abstract: Terminations for medium voltage cables are mainly produced from plastic insulating materials. Under outdoor conditions **electrolytic** conductive layers are developed on the surface of the insulation caused by pollution and moisture. The applied operating voltage leads to a leakage **current** often being combined with partial discharges on the surface. The energy of these discharges results in an erosion of the surface. Following pollutants, as well as moisture, adhere to the surface. In the case of incorrect selection of the insulating material (nontracking resistant) or of unfavourable design of the termination, conductive tracking traces can occur, leading rapidly to the failure of the termination. The insulation behaviour under such conditions is proven by means of the so called salt-fog-test. The demonstration of test results of various termination designs gives a contribution to an improved interpretation, as well as an evaluation of the technical reserves.
Subfile: B

19/3,AB/4 (Item 4 from file: 2)
DIALOG(R)File 2:INSPEC

03517887 INSPEC Abstract Number: B90000909
Title: A study on the **current** density distribution in the circular contact surface
Author(s): Soo-Woong Park; Suck-Joo Na
Author Affiliation: Dept. of Production Eng., Korea Adv. Inst. of Sci. & Technol., Seoul, South Korea
Journal: IEEE Transactions on Components, Hybrids, and Manufacturing Technology vol.12, no.3 p.325-9
Publication Date: Sept. 1989 Country of Publication: USA
CODEN: ITTEDR ISSN: 0148-6411
U.S. Copyright Clearance Center Code: 0148-6411/89/0900-0325$01.00
Language: English
Abstract: The distribution of the **current** density in the circular contact surface between two conducting semi-infinite bodies is theoretically analyzed. The **current** flow characteristics in the contact surface are simulated by solving a set of simultaneous equations derived from an analogy to the electrostatic charge distribution problem. The **current** density distribution is measured for uniform size of microcontacts by using enamel-coated copper wires and **electrolyte**, and the experimental results are compared with the calculated **current** density for various densities of the microcontact. It is revealed that the experimental and theoretical results are in good agreement. By using the proposed theoretical model the **current** density can be calculated also for circular contacts with arbitrary size and distribution of microcontacts, if the size and distribution of microcontacts are given from experimental or theoretical studies. Therefore, the proposed model can be used effectively to determine the **current** density distribution in the circular-shaped contact surface with multiple microcontacts.
Subfile: B

19/3,AB/5 (Item 5 from file: 2)
DIALOG(R)File 2:INSPEC

00423523 INSPEC Abstract Number: B72029737, C72018735
Title: A new approach to sensors for in vivo monitoring. I. Oxygen
Author(s): Niedrach, L.W.; Stoddard, W.H.
Author Affiliation: General Electric Res. & Dev. Center, Schenectady, NY, USA
Journal: Journal of the Association for the Advancement of Medical Instrumentation vol.6, no.2 p.121-5
Publication Date: March-April 1972 Country of Publication: USA
CODEN: AMIJAH
Language: English
Abstract: A compact, self-powered, polarographic oxygen sensor suitable for in vivo and other applications is described. The miniature device is representative of a new class of sensors fabricated on wires through the application of various components by dipcoating, painting, and other related operations. Because of their ease of manufacture, 'throwaway' use is envisaged. In the oxygen sensor under consideration a hydrided palladium wire serves as both the support and the anode. A suitable enamel **insulates** this **wire** from the cathodic **current** collector while a layer of anion exchange resin serves as the **electrolyte** between the anode and a concentric silver cathode. The diffusion barrier, a fluorocarbon rubber, also serves to insulate the entire structure from the environment.

08/01/2002 09/437,226

20/3,AB/6 (Item 1 from file: 6)
DIALOG(R)File 6:NTIS

2084365 NTIS Accession Number: ASTM-D-3032-97/XAB
Standard Test Method for Hookup **Wire Insulation**. (ASTM Standard)
American Society for Testing and Materials, West Conshohocken, PA.
Corp. Source Codes: 113500000
cMar 98 40p
Languages: English
Journal Announcement: GRAI9819
DoD adopted. These test methods are under the jurisdiction of ASTM Committee D-9 on Electrical and Electronic Insulating Materials and are the direct responsibility of Subcommittee D09.18 on Solid Insulations, Non-Metallic Shieldings and Coverings for Electrical and Telecommunication Wires and Cables.
Current edition approved Dec. 10, 1997. Published March 1998. Originally published as D 3032-72. Last previous edition D 3032-96. Product reproduced from digital image.
NTIS Prices: PC$39.00/MF$39.00

08/01/2002 09/437,226

20/3,AB/7 (Item 2 from file: 6)
DIALOG(R)File 6:NTIS

1411950 NTIS Accession Number: N89-12002/6
Aircraft Electrical Wet-Wire Arc Tracking
(Final Repor)
Cahill, P. L. ; Dailey, J. H.
Federal Aviation Administration Technical Center, Atlantic City, NJ.
Corp. Source Codes: 015213000; FJ049677
Sponsor: National Aeronautics and Space Administration, Washington, DC.
Report No.: DOT/FAA/CT-88/4
Aug 88 24p
Languages: English
Journal Announcement: GRAI8906; STAR2703

NTIS Prices: PC A03/MF A01
Electrical wet-wire arc tracking is a phenomenon that has been known for many years. This can occur when leakage **currents** on a wet insulation surface are great enough to vaporize the moisture, resulting in the formation of dry spots. These dry spots offer a high amount of resistance to **current** flow. In turn, an induced voltage will develop across these spots and result in the occurrence of small surface discharges. Initially, these discharges will appear as scintillations at the insulation surface. These discharges produce highly localized temperatures on the order of 1000 C. Temperatures of this magnitude will cause thermal degradation of the insulation material, the nature of which depends on the insulation material used. The FAA conducted a series of bench scale tests which demonstrated that the ability of an aircraft wire to resist wet arc tracking and possible flashover is highly dependent on the composition of the **wire insulation**. In addition, the conductivity level of the **electrolyte** may influence the time and type of failure (arc track or open circuit) that can occur.

20/3,AB/8 (Item 3 from file: 6)
DIALOG(R)File 6:NTIS

1021981 NTIS Accession Number: PB83-170712
Safe Organic Insulations and Fluids for Permissible Enclosures
(Rept. for 27 Sep-27 Jun 80)
Paciorek, K. L. ; Kratzer, R. H. ; Lee, F. F. C. ; Nakahara, J. H.
Ultrasystems, Inc., Irvine, CA.
Corp. Source Codes: 057155000
Sponsor: Bureau of Mines, Washington, DC.
Report No.: BUMINES-OFR-16-83
Jun 80 168p
Languages: English
Journal Announcement: GRAI8313
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)321-8547; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
NTIS Prices: PC A08/MF A01
Explosion-proof electrical enclosures contain a variety of organic insulating materials of differing nature and chemical composition. When subjected to thermal and/or electric stress, organic insulators may be potentially hazardous owing to moist tracking and thermal oxidative degradation. Organic materials utilized as **cable** jacketing, **cable insulation**, standoffs, **insulating** boards, and potting compositions were identified and a literature survey performed to obtain the required thermal oxidative and moist tracking data. Thirty representative compositions were procured and subjected to thermal and moist tracking evaluations. Tracking was found to invariably result in ignition or glow of the test specimen. Influence of parameters such as **electrolyte** strength and composition, temperature, conductor spacing, and electrode material were investigated. Volatiles produced by selected insulators on thermal oxidative and electrical stress were identified, quantitated, and their potential impairment action upon a **current** interrupter assessed.

20/3,AB/9 (Item 4 from file: 6)
DIALOG(R)File 6:NTIS

0907047 NTIS Accession Number: SAND-80-0920C/XAB
Effect of High-Moisture Environments on Printed-**Wiring**-Board **Insulation**
Jennings, C. W.
Sandia National Labs., Albuquerque, NM.
Corp. Source Codes: 068123000; 9511100
Sponsor: Department of Energy, Washington, DC.
Report No.: CONF-810611-1
1981 16p
Languages: English Document Type: Conference proceeding
Journal Announcement: GRAI8121; NSA0600
International printed circuit board conference, Munich, F.R. Germany, 9 Jun 1981.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)321-8547; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
NTIS Prices: PC A02/MF A01
The use of high impedance circuitry and narrow conductor separations in **current** designs is generating increasing concern for the insulation resistance between conductive elements especially those used in high moisture environments. This concern is multiplied by the expanding use of electronic devices in a greater variety of environments and the desire for less heat generation within the device. The high insulation resistance of a dry printed circuit board can be degraded in high moisture environments by **electrolytic** conducting paths and/or electronic conducting filament growths between conductive elements. The essential ingredients for resistance degradation are bias and a moisture path linking the conductors. Ions derived from the interaction of moisture with the material on or in the substrate enhance the **electrolytic** conduction. This material can be residue from processing and handling, air borne contaminate, or leachable constituents from the substrate. A moisture path can form from atmospheric condensate accompanying a temperature change, i.e., dew, or from water adsorption on hydrophillic sites or hydroscopic contaminants on the surface. Methods for preventing the resistance degradation of printed circuit boards, e.g., cleaning, heating, using sealed enclosures, and board surface treatments with water repellants and coatings are discussed. (ERA citation 06:020728)

20/3,AB/10 (Item 5 from file: 6)
DIALOG(R)File 6:NTIS

0745097 NTIS Accession Number: AD-A062 902/2/XAB
Premature Failure of Deep Well Anodes
(Final rept. Dec 75-May 78)
Lewicki, T. F.
Air Force Civil Engineering Center Tyndall AFB FL
Corp. Source Codes: 390985
Report No.: CEEDO-TR-78-40
Jun 78 48p
Languages: English
Journal Announcement: GRAI7910

This report covers an investigation into the causes of premature failure of deep well anode beds. Anodes or lead wires were retrieved from two failed deep well anode beds and analyzed. Deep well conditions were simulated in the laboratory and graphite and HSCI anodes were subjected to different **electrolytes** and normal **current** outputs. A new **wire insulation** was tested and compared to HMPE insulation under deep well conditions in the lab. (Author)

20/3,AB/11 (Item 6 from file: 6)
DIALOG(R)File 6:NTIS

0171429 NTIS Accession Number: AD-681 607/XAB
Conveyer Installation for Electric **Insulation** Anodizing of Aluminum **Wire**
Birkgan, L. N. ; Gevorkyan, V. M. ; Garbera, M. I. ; Rumyantseva, N. V.
Foreign Technology Div Wright-Patterson AFB Ohio
Corp. Source Codes: 141600
Report No.: FTD-MT-24-225-68
16 Aug 68 32p
Document Type: Translation
Journal Announcement: USGRDR6907
Edited machine trans. of mono. Avtomatizatsiya i Mekhanizatsiya Galvanicheskikh Protsessov. Sbornik (Automation and Mechanization of Electroplating Processes) Moscow, 1965 p303-323.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)321-8547; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
NTIS Prices: PC A03/MF A01
An apparatus for continuous anodizing of aluminum wire and the technology of this process are both described in detail. Methods for testing the quality of oxide films are examined. The physical and mechanical properties of the obtained coatings are given. (Author)

20/3,AB/12 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05128070
E.I. No: EIP98104396818
Title: Metallization by plating for high-performance multichip modules
Author: Wong, K.K.H.; Kaja, S.; DeHaven, P.W.
Source: IBM Journal of Research and Development v 42 n 5 Sep 1998. p 587-596
Publication Year: 1998
CODEN: IBMJAE ISSN: 0018-8646
Language: English
Abstract: **Electrolytic** plating is used to produce the interconnect wiring on the **current** generation of high-performance multichip modules used in IBM S/390 and AS/400 servers. This paper reviews the material and manufacturing requirements for successful implementation of a multilayer high-density wiring pattern involving electroplated copper metal and polyimide dielectric. Various strategies for the construction of thin-film structures (planarized and nonplanarized) are outlined, and the advantages of **electrolytic** plating over dry deposition techniques are described. (Author abstract) 33 Refs.

20/3,AB/13 (Item 2 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

04700782
E.I. No: EIP97053663568
Title: Preparation of conducting fibers via the electrochemical polymerization of pyrrole
Author: Bhadani, Suraj N.; Kumari, Madhuri; Sen Gupta, Sumanta K.; Sahu, Guru C.
Corporate Source: Ranchi Univ, Ranchi, India
Source: Journal of Applied Polymer Science v 64 n 6 May 9 1997. p 1073-1077
Publication Year: 1997
CODEN: JAPNAB ISSN: 0021-8995
Language: English
Abstract: Cyclic voltammograms of pyrrole monomer and polypyrrole films prepared potentiostatically at 1.0 V versus an Ag/AgCl electrode have been examined. The **insulating** natural **fibers**, such as cotton, silk, and wool become electrically conducting when they are subjected to electrical treatment in the polymerizing solution of pyrrole in acetonitrile containing p-toluenesulfonic acid as a supporting **electrolyte**. The weight gain and the electrical conductivity of the fibers increase with the time of **electrolysis** and impressed **current** levels. The conductivities are in the range of 0.2 to 15 s/cm and dependent on the nature of the fibers. (Author abstract) 15 Refs.

20/3,AB/14 (Item 3 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

04502601
E.I. No: EIP96093336906
Title: Internal space charge distribution formed by polymer solid **electrolytes**
Author: Fukunaga, K.; Maeno, T.
Corporate Source: Communications Research Lab, Tokyo, Jpn
Conference Title: Proceedings of the 1996 IEEE International Symposium on Electrical Insulation. Part 2 (of 2)
Conference Location: Montreal, Can Conference Date: 19960616-19960619
E.I. Conference No.: 45333
Source: Conference Record of IEEE International Symposium on Electrical Insulation v 2 1996. IEEE, Piscataway, NJ, USA,96CB35972. p 448-450
Publication Year: 1996
CODEN: CRIID6 ISSN: 0164-2006
Language: English
Abstract: The internal space charge in solid dielectrics can be observed directly, and is widely discussed dc characteristics of polymer-**insulated** high-voltage **cables**. We have experimentally investigated the internal space charge behavior of new anti-electrostatic polymers which include polymer solid **electrolytes** and additive ion sources and have found that their internal ions form space charge fields that compensate the surface fields of the polymers. The present work focuses on what makes the internal space charges and what determine their distributions. Comparing the space charge distribution of an original anti-electrostatic polymer with that of one without additive ions revealed that the positive charge accumulation near the cathode is caused by the additive anions. Additional experiments using injection-moulded and pressure-moulded specimens indicate that internal space charge behavior is strongly influenced by the polymer stru

20/3,AB/15 (Item 4 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

02577438
E.I. Monthly No: EIM8805-025145
Title: 1987 ANNUAL REPORT: CONFERENCE ON ELECTRICAL INSULATION AND DIELECTRIC PHENOMENA.
Author: Anon
Conference Title: 1987 Annual Report: Conference on Electrical Insulation and Dielectric Phenomena.
Conference Location: Gaithersburg, MD, USA Conference Date: 19871018
E.I. Conference No.: 10863
Source: Annual Report - Conference on Electrical Insulation and Dielectric Phenomena 1987. Publ by IEEE, New York, NY, USA. Available from IEEE Service Cent (Cat n 87CH2462-0), Piscataway, NJ, USA 540p
Publication Year: 1987
CODEN: CEIPAZ ISSN: 0084-9162
Language: English
Abstract: The following topics are dealt with: breakdown processes in insulating materials; polarization charge and field mapping; charge storage and transport; high-field engineering, measurement techniques; partial discharges; transformer oil; extruded **dielectric** power **cables**; solid, liquid and gaseous dielectrics; treeing phenomena; hexane; propylene films; electrodes; **electrolyte** solutions; liquid crystals; spark gaps; switchgear; semiconductors; rubber; polymers; epoxy resins; photoconductivity; plasmas; Kerr electrooptic technique; electro-acoustics; piezoelectricity; XLPE cables; and laser applications.

20/3,AB/16 (Item 5 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

00674502
E.I. Monthly No: EI7712087414
E.I. Yearly No: EI77004434
Title: Voltage Drop in Soderberg Anodes with Vertical **Current** Feeding of Aluminum **Electrolytic** Cells as Determined by Industrial Measurements and Model Studies..
Title: SPADEK NAPIECIA W ANODACH SODERBERGA Z PIONOWYM DOPROWADZENIEM PRADU ELEKTROLIZEROW ALUINIUM OKRESLONY POMIARAMI PRZEMYSLOWYMI I BADANIAMI MODELOWYMI.
Author: Zieba, Edwin; Orman, Zofia
Corporate Source: Akad Gorn-Hutn, Cracow, Pol
Source: Archiwum Hutnictwa v 22 n 1 1977 p 103-111
Publication Year: 1977
CODEN: AHUTA4 ISSN: 0004-0770
Language: POLISH
Abstract: Measurements were made of the voltage drop in these anodes by two methods. The first method consists in using specially developed probes in the shape of steel tubes baked into the anode with **insulated wires** introduced into these tubes, while the second method is based on the use of probes driven directly into the outer surface of the anode. The results of the measurements are compared with theoretical calculations of the voltage drop carried out in an earlier paper. It is found that the previously derived theoretical formulas make it possible to correctly determine the voltage drop and **current** losses in anodes with vertical **current** feeding. 3 refs. In Polish.

20/3,AB/17 (Item 6 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

00599814
E.I. Monthly No: EI7702011947
E.I. Yearly No: EI77063547
Title: PUT CORROSION CONTROL IN YOUR DESIGN PLANS.
Author: McGary, William
Corporate Source: Henkels & McCoy, Inc, Blue Bell, Pa
Source: Pipeline and Gas Journal v 203 n 6 May 1976 9 p between p 55 and 70
Publication Year: 1976
CODEN: PLGJAT ISSN: 0032-0188
Language: ENGLISH

Abstract: Review covers general requirements and criteria for design of cathodic protection systems. Factors involved are: amount of **current** required, nature of **electrolyte**, presence of stray **current electrolysis**, mandatory state and Federal regulations. Corrosion control equipment and materials are generally discussed with criteria for successful coating as basic requirement for cathodic protection economics being considered first. Rectifiers, anodes for impressed **current** and sacrificial galvanic anodes are briefed together with some latest developments like coating molds, insulating supports, special grades of **wire insulating** and lightning protection devices and the like. Field tests should provide final answer to check design efficiency and correctness and are required at regular intervals later to ensure proper system function.

08/01/2002 09/437,226

20/3,AB/18 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

04452922 Genuine Article#: TE005 Number of References: 16
Title: TRANSIENT **CURRENT** MEASUREMENT FOR THE DETECTION OF WATER TREE GROWTH IN POLYMERIC POWER-CABLES (Abstract Available)
Author(s): LI HM; FOURACRE RA; CRICHTON BH
Corporate Source: UNIV STRATHCLYDE,CTR ELECT POWER ENGN/GLASGOW/LANARK/SCOTLAND/
Journal: IEEE TRANSACTIONS ON DIELECTRICS AND ELECTRICAL INSULATION, 1995 , V2, N5 (OCT), P866-874
ISSN: 1070-9878
Language: ENGLISH Document Type: ARTICLE
Abstract: In this paper, the relationship between the frequency and time domain windows is discussed. From this study an appropriate time window for transient **current** measurements may be chosen so that reliable low frequency dielectric data can be obtained. The suitability of applying either Fourier transform or the Hamon approximation for the derivation of low frequency responses is discussed for transient **currents** with different shapes. With water-treed LDPE samples aged in the laboratory, measurements of transient **currents**, with subsequent transformation into the frequency domain, show a loss peak at similar to 10(-4) to 10(-3) Ha when moisture is retained in the samples. Even with free water removed, a higher dielectric loss is observed in water treed samples compared to virgin samples. The relaxation behavior may serve as an indicator of water treeing in polymeric **cable insulation**. The results of both transient measurements and TSDC results can be affected significantly by the treatment conditions of the samples. The application of vacuum to a water treed sample can alter the activation energy of the conduction process and the TSDC spectra.

08/01/2002 09/437,226

20/3,AB/19 (Item 2 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

04027731 Genuine Article#: RA210 Number of References: 26
Title: DIELECTRIC-PROPERTIES OF TRANSITION-METAL OXIDE GLASSES (Abstract Available)
Author(s): MURAWSKI L; BARCZYNSKI RJ
Corporate Source: GDANSK TECH UNIV,FAC APPL PHYS & MATH,G NARUTOWICZA 11-12/PL-80952 GDANSK//POLAND/
Journal: JOURNAL OF NON-CRYSTALLINE SOLIDS, 1995, V185, N1-2 (MAY), P84-93
ISSN: 0022-3093
Language: ENGLISH Document Type: ARTICLE
Abstract: Dielectric properties of iron and vanadium phosphate glasses containing different glass modifiers have been studied in a broad range of frequency and temperature by the absorption **current** and with an ac transformer bridge. The dielectric spectra exhibit a peak that can be related to the electron transfer between iron atoms in different valency states. This peak and the de conductivity revealed a similar activation energy. The data obtained were interpreted in the framework of a new model of relaxation in glasses recently proposed by Hunt.

20/3,AB/21 (Item 1 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

01629285 AAD9821908
ANALYSIS OF CONTAMINANTS IN OXYGEN FROM PVC TUBING USED IN RESPIRATORY THERAPY, CHROMATOGRAPHIC COMPONENTS IN ELECTROCHEMICAL SENSORS, AND A MODEL FOR DEGRADATION OF ELECTRICAL **CABLE INSULATION** (PLASTICIZERS)
Author: HILL, SANDRA SAWUTZ
Degree: PH.D.
Year: 1997
Corporate Source/Institution: THE UNIVERSITY OF CONNECTICUT (0056)
Source: VOLUME 59/01-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
PAGE 197. 257 PAGES

Results from three projects involving **current** and prospective performance for polymeric materials are described. These questions were addressed: Can polymerized microemulsions be used as chromatographic components in electrochemical devices? What is the exposure level to plasticizers and other components in PVC tubing used in respiratory therapy? Does polyethylene **cable insulation** degrade via a proposed electrochemical mechanism?

Polymerized microemulsions (PME) containing styrene, divinylbenzene, water and Aerosol-OT, were prepared by thermal and photochemical polymerization, and characterized using electroanalytical techniques. Although the surfaces of these materials appeared smooth macroscopically, electron microscopy showed a porous polymer with micropore sizes from 6-9 μm. Characterization of surface modified electrodes by voltammetry showed PMEs bind cations not anions. A robust, porous, ion-exchanging material is easily fabricated for many applications.

Plasticizers improve PVC tubing flexibility for applications in respiratory therapy. Plasticizers are not chemically bound to PVC which increases the likelihood of human exposure. The amount of plasticizers migrating from PVC tubing was determined using direct dynamic thermal desorption gas chromatography-mass spectrometry. Air passed through PVC tubing and custom-made devices containing Tenax, a commercial adsorbant for GC. Plasticizers and other compounds volatilized from the tubing into air were preconcentrated on the Tenax for GC/MS analysis. Specific compounds identified in both air and PVC itself were the antioxidants, BHT and p-nonylphenol, and the plasticizers, diethyl phthalate and di(2-ethylhexyl) phthalate above the detection limit of 0.2 μg/mL.

Mechanisms for degradation of polyethylene **insulation** in electrical **cables** are unclear but include long-term exposure to the electric field and water in the cable. A proposed electrochemical mechanism for **cable insulation** degradation was investigated. LDPE was electrolyzed under high-voltage ac and low-voltage dc electric fields in the presence of air and water containing sodium hydroxide. In one experiment, benzoic acid was observed from ac **electrolysis** of LDPE. Changes in voltammetric and contact angle measurements may suggest physical changes occurred. No evidence suggested that oxidation of the polyethylene occurred above the detection limit of 1.0 μg/mL.

20/3,AB/22 (Item 1 from file: 94)
DIALOG(R)File 94:JICST-EPlus

02693252 JICST ACCESSION NUMBER: 96A0403295 FILE SEGMENT: JICST-E
Investigation on Harmfulness of Water Tree. Effect of the Space Charge.
TANIMOTO GEN (1); WANG S (1); AIDA FUMIO (1); FUJIWARA YASUTAKA (1)
(1) Showa Electr. Wire & Cable Co., Ltd.
Showa Densen Rebyu(Showa Electric Wire and Cable Review), 1996, VOL.46,NO.1
, PAGE.26-30, FIG.8, REF.5
JOURNAL NUMBER: F0024ABU ISSN NO: 0916-6718
UNIVERSAL DECIMAL CLASSIFICATION: 621.315.1/.3
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: Water trees have been known to be a factor that deteriorates an insulation of crosslinked polyethylene **insulated cables**. A process with which an electrical tree emerges from the water tree has been extensively investigated by applying a pre-breakdown detection test, and many results have been recently reported. Aphenomenon in which an electrical stress concentration because of the increase in conductivity of water treed region. The electric field at the water tree tip was reported in terms of above consideration. It is known that ionic impurities accelerate the development of the water tree. The authors had examined the cables removed from service lines using the pre-breakdown detection method and found especially harmful water trees that decrease the electrical tree inception voltage more than conventional water trees. It was also found that the harmful water trees had their origins on contaminants in the conductor shield. The authors already reported that the existence of iron and sulfur as ferrous sulfate was peculiar to the origins of harmful water trees. This implies that the **electrolyte** in water trees may play an important role on the process of electrical tree inception from water trees. We investigated the relationship between ionic impurities in water trees and space charge, then the change in the field distribution caused by space charge was calculated and the influence on electrical tree inception were discussed. (author abst.)

20/3,AB/23 (Item 2 from file: 94)
DIALOG(R)File 94:JICST-EPlus

02395955 JICST ACCESSION NUMBER: 95A0573785 FILE SEGMENT: JICST-E
Investigation of Generating Mechanism of DC Component in Water-tree Deteriorated XLPE Cables.
EBINUMA YASUMITSU (1); KAWAI JIRO (1); FUJIWARA YASUTAKA (1)
(1) Showa Electr. Wire & Cable Co., Ltd.
Denki Gakkai Ronbunshi. B(Transactions of the Institute of Electrical Engineers of Japan. B), 1995, VOL.115,NO.6, PAGE.655-661, FIG.13, TBL.3, REF.12
JOURNAL NUMBER: S0809AAJ ISSN NO: 0385-4213
UNIVERSAL DECIMAL CLASSIFICATION: 621.315.1/.3
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: When water-trees occurred in the **insulation** of XLPE **cables**, and extended so that the insulation is penetrated to either the conductor shield or the insulation shield, DC component has been observed. This DC component has been applied to diagnose insulation deterioration, but for its generating mechanism there remain unknown points. Therefore, the authors made holes on XLPE sheets and **cable insulation**, and by simulating the penetrating water-tree, the characteristics of the DC component and electrode potential were investigated. Based on the results, it was found that **electrolyte** solution is required for the generation of the DC component. Furthermore, as electrodes, the combination of different kinds of materials or the combination of different electrode areas is also needed. It was mentioned that the above conditions are also satisfied in actual cables, and from the experimental results at this time, it was presumed that the main cause of generating the DC component is the electrochemical reaction at the electrode interfaces. (author abst.)

20/3,AB/24 (Item 3 from file: 94)
DIALOG(R)File 94:JICST-EPlus

01619116 JICST ACCESSION NUMBER: 92A0749483 FILE SEGMENT: JICST-E
Investigation of generating mechanism of DC component.
KAWAI JIRO (1); EBINUMA YASUMITSU (1)\
(1) Showa Electric Wire & Cable Co., Ltd.
Denki Zetsuen Zairyo Shinpojiumu Yokoshu(Proceedings of the Symposium on Electrical Insulating Materials), 1992, VOL.24th, PAGE.167-170, FIG.5, REF.5
JOURNAL NUMBER: G0398BAL
UNIVERSAL DECIMAL CLASSIFICATION: 621.315.1/.3
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Conference Proceeding
ARTICLE TYPE: Short Communication
MEDIA TYPE: Printed Publication
ABSTRACT: DC component method is used for the deterioration detection of XLPE **insulated** power **cables**. But the generating mechanism of DC component has been left unclarified. The authors hava been investigating that mechanism from a view point of electrochemical behavior. It was found that the polarity and the magnitude of DC component depended on **electrolyte**, electrode and applied voltage. Next we tested under the condition close to the actual use. It was confirmed that DC component was generated when the **insulation** of actual **cable** was passed through water. (author abst.)

20/3,AB/25 (Item 1 from file: 99)
DIALOG(R)File 99:Wilson Appl. Sci & Tech Abs

1447743 H.W. WILSON RECORD NUMBER: BAST97003861
Spatiotemporal patterns on electrode arrays
Fei, Z; Kelly, R. G; Hudson, J. L
The Journal of Physical Chemistry v. 100 (Dec. 5 '96) p. 18986-91
DOCUMENT TYPE: Feature Article ISSN: 0022-3654

ABSTRACT: Experiments were carried out with arrays of iron electrodes in sulfuric acid solution under conditions in which slow active-passive relaxation oscillations occur. The arrays consisted of a number of small disks which were made by exposing the ends of **wires** embedded in an **insulator**. Three array geometries were used: (a) 2 [times] 8 which approximates a one-dimensional geometry, (b) 4 [times] 4 square array, and (c) 61 electrodes in a hexagonal pattern. The experiments were done potentiostatically, and the **current** in each electrode was measured independently; therefore, the spatiotemporal patterns which occurred were directly determined. For the oscillatory conditions, which occur at potentials above the Flade potential, a wave moves from the center of the electrode to the edge during the activation phase and another moves in the opposite direction, from edge to center, during the passivation. The velocities of these waves depend on array size and applied potential; the activation velocities are much faster than those of passivation. Both the activation and passivation wave fronts accelerate as they propagate along the array. As the potential is lowered, a spatiotemporal period doubling occurs. Long-range coupling plays an important role in the dynamics of such electrochemical reactions; the arrays of electrodes behave qualitatively similar to single electrodes of the same total surface area. The arrays can thus be used to gather information on the rate of reaction at various sites on a reacting surface.

20/3,AB/27 (Item 1 from file: 144)
DIALOG(R)File 144:Pascal

15609785 PASCAL No.: 02-0313984
Improved aluminium alloys for electrical conductors
1st international forum on innovations in power links
FIILE 2001 : 1e forum international de l'innovation pour les liaisons d'energie : Paris, 29 mars 2001
COTTIGNIES Laurent; LOREAU Bernard
Pechiney CRV, France; Aluminium Pechiney, France
Societe des electriciens et des Electroniciens, Paris, France
Forum international de l'innovation pour les liaisons d'energie, 1 (Paris FRA) 2001-03-29
2001 60-65
Publisher: SEE, Paris
Language: English Summary Language: French
L'aluminium pur 1370 est utilise dans les cables isoles et les conducteurs aluminium-acier des lignes aeriennes alors que les alliages de la serie 6000, egalement connus sous le nom d'Almelec, sont utilises dans les conducteurs homogenes. Depuis quelques annees, les producteurs et transporteurs d'electricite sont confrontes a de nouvelles contraintes environnementales et reglementaires. Parmi les solutions envisagees on peut citer l'enfouissement des liaisons et l'augmentation de la capacite de transit des conducteurs. Les producteurs d'aluminium ont developpe de nouveaux alliages pour y repondre : alliages 6000 a haute conductivite, conducteurs compacts, alliages aluminium-zirconium. D'autre part les progres des **electrolyses** ont permis de reduire les teneurs en impuretes et donc d'augmenter la conductivite. L'utilisation de ces nuances plus pures est interessante pour les cables HTA et HTB.

20/3,AB/28 (Item 2 from file: 144)
DIALOG(R)File 144:Pascal

13729836 PASCAL No.: 98-0421925
Wire bonding over **insulating** substrates by electropolymerization of polypyrrole using a scanning micro-needle
SHIRATORI S S; MORI S; IKEZAKI K
Keio Univ, Yokohama-shi, Japan
Proceedings of the 1997 9th International Conference on Solid-State Sensors and Actuators (Chicago, IL, USA) 1997-06-16/1997-06-19
Journal: Sensors and Actuators, B: Chemical, 1998, v B49 (1-2) 30-33
Language: English
Electrically conducting wires 10-200 mu m in diameter were controllably formed over electrically insulating substrates by electropolymerization of a conducting polymer using a scanning micro-needle. The conductivity of the wire was estimated from the I-V characteristics to be about 0.5-200 S cm-1 which is not inferior to the reported conductivity of an electrochemically polymerized polypyrrole (PPy) film. Wires were formed like bridges between two conducting electrodes over glass substrates. This technique can be used for wire bonding of elements or electrodes.

20/3,AB/31 (Item 1 from file: 315)
DIALOG(R)File 315:ChemEng & Biotec Abs

477426 CEABA Accession No.: 32-06-000473 DOCUMENT TYPE: Journal
Title: Normal zone propagation process accompanied by **current** redistribution in superconducting triplex cables
Orig. Title: Normalzonenausbreitung begleitet von Stromumverteilung in supraleitenden Triplexkabeln
AUTHOR: Amemiya, N. ; Yonekawa, H. ; Ogitsu, T. ; Sasaki, K. ; Ohuchi, N. ; Tsuchiya, K. ; Shintomi, T.
CORPORATE SOURCE: Yokohama National Univ., Tsukuba, J
JOURNAL: Cryogenics, Volume: 40, Issue: 8-10, Page(s): 655-662
CODEN: CRYOAX ISSN: 00112275
PUBLICATION DATE: 2000 (20000000)
ABSTRACT: Superconducting triplex cables are studied for the normal zone propagation process and **current** redistribution in quench experiments. Considered are the experimental set-up using small Hall sensors, samples of superconductor **cables** with non-**insulated** strands, two types of strand surfaces made of bare copper and chrome plated, temporal evolutions of strand **currents**, axial profiles of strand **current** variation during quenching, and **current** redistribution modes. **Current** redistribution and normal zone propagation are influenced by contact resistance between strands. Chrome plated strands have high contact resistance and there is **current** transfer along the cable. Copper strands have small resistance and **current** transfer near the normal front. An increase in normal zone propagation rate is explained by **current** redistribution preceding normal zone propagation in cables of high contact resistance.

20/3,AB/32 (Item 2 from file: 315)
DIALOG(R)File 315:ChemEng & Biotec Abs

424971 CEABA Accession No.: 28-11-022347 DOCUMENT TYPE: Journal
Title: Preparation of conducting fibres by the electrochemical polymerization of pyrrole.
AUTHOR: Bhadani, S. N. ; Kumari, M. ; Gupta, S. K. S. ; Sahu, G. C.
CORPORATE SOURCE: Ranchi Univ. Dept. Chem. Ranchi 834 008 India
JOURNAL: J. Appl. Polym. Sci., Volume: 64, Issue: 6, Page(s): 1073-1077
CODEN: JAPNAB ISSN: 00218995
PUBLICATION DATE: 9 May 1997 (970509) LANGUAGE: English
ABSTRACT: Cyclic voltammograms were determined of pyrrole monomer and polypyrrole films prepared potentiostatically at 1.0 V versus silver/silver chloride. **Insulating** natural **fibres**, such as cotton, silk, and wool, became electrically conducting when subjected to electrical treatment in a polymerizing solution of pyrrole in acetonitrile containing p-toluenesulfonic acid as a supporting **electrolyte** . The mass gain and electrical conductivity of the fibres increase with the time of **electrolysis** and with **current** levels. The conductivities were in the range 0.2-15 s/cm and depended on the nature of the fibres.

08/01/2002 09/437,226

23/3,AB/1 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

06083305
E.I. No: EIP02277003075
Title: Detection of a faulty power distribution apparatus by using **thermal images**
Author: Ishino, Ryuichi
Conference Title: 2002 IEEE Power Engineering Society Winter Meeting
Conference Location: New York, NY, United States Conference Date: 20020127-20020131
E.I. Conference No.: 59187
Source: Proceedings of the IEEE Power Engineering Society Transmission and Distribution Conference v 2 2002. p 1332-1337 (IEEE cat n 02ch37309)
Publication Year: 2002
Language: English
Abstract: A **thermal image** has often been used to inspect a power distribution apparatus. The development of an automatic diagnosis method for the apparatus, which utilizes **thermal images**, will facilitate the inspection. To this end, a new method of diagnosing a power distribution apparatus by means of **thermal images** has been developed as one of the functions incorporated into a monitoring device that moves on an overhead ground wire. The method consists of both extraction of the apparatus from a **thermal image** and diagnosis of the apparatus in terms of the local temperature gradient. Experiments using the proposed method were conducted under different weather conditions, times, and seasons. An error rate of 3% was obtained from the experiments on the extraction of apparatus, and an error rate of 17% was obtained from the experiments on the detection of faulty apparatus. The proposed method can extract and detect faulty apparatuses except the case in which the distance between the pole and the infrared camera is so large that the sensitivity is insufficient. 10 Refs.

23/3,AB/4 (Item 4 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05592117
E.I. No: EIP00065193747
Title: Experimental investigation of the resistance welding for thermoplastic-matrix composites. Part I: heating element and heat transfer
Author: Ageorges, Christophe; Ye, Lin; Hou, Meng
Corporate Source: Univ of Sydney, Sydney, Aust
Source: Composites Science and Technology v 60 n 7 May-Jun 2000. p 1027-1039
Publication Year: 2000
CODEN: CSTCEH ISSN: 0266-3538
Language: English
Abstract: A comprehensive experimental investigation of the resistance welding of carbon-fibre and glass-fibre reinforced polyetherimide (PEI) laminates is presented. Lap-shear and double-cantilever-beam specimens were resistance welded by using fabric and unidirectional heating elements. The statistical distribution of the resistance of the heating elements was characterised, and the effects of the temperature on the heating element resistance were evaluated. The influence of the mechanical contact pressure on the contact resistance was also investigated. One of the main process parameters in resistance welding, i.e. the power density, was studied in detail. Heating uniformity in the heating elements was assessed through **thermal imaging**, allowing for a comparison between fabric and unidirectional heating elements. Temperature histories were measured and compared to those simulated by a three-dimensional transient heat transfer finite-element model. Factors limiting the size of the welded joint, i.e. temperature non-uniformity within the welding area and **current** leaking to the laminate, were investigated. Proper electrical **insulation** using a glass-**fibre**/PEI interlayer between the heating element and the laminate when joining carbon-fibre/PEI laminates effectively eliminated **current** leaking and enabled large-scale resistance welding. (Author abstract) 40 Refs.

08/01/2002 09/437,226

23/3,AB/5 (Item 5 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

03807758
E.I. No: EIP94021216299
Title: Development of thermographic NDT for delaminated defects in fiber reinforced plastics
Author: Sakagami, Takahide; Ogura, Keiji; Yamanaka, Shuusuke
Source: Nippon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A v 59 n 565 Sep 1993. p 2155-2162
Publication Year: 1993
CODEN: NKGADA ISSN: 0387-5008
Language: English; Japanese
Abstract: Thermographic NDT is developed for the inspection of the delaminated defects embedded in fiber reinforced plastic samples. The location and shape of the defects are identified from the surface temperature distribution appear on the sample by the heat insulation effect of the defects, when the sample is under heating and/or cooling. The resolution is examined for the artificial delaminated defects both in CFRP and GFRP samples, when the conventional infrared radiation heating is adopted. Experimental results show that the radiation heating is not effective for the accurate defect inspection of the CFRP sample due to its high thermal conductivity. The Joule effect heating, on the other hand, is found to be effective for the similar sample. Two methods of the Joule effect heating, a direct **current** application and an induction heating, are investigated. The induction heating thermographic NDT is degraded in the resolution of the defects, compared with the direct **current** thermographic NDT, because of the inhomogeneity in the induced **current** field. This can be improved by the use of an image processing technique in the analysis of the **thermal images**. Further the present **thermographic** NDT technique is applied for the inspection of the GFRP sample with the actual delaminated damage under cyclic straining. The possible detection of the subsurface damage is discussed. (Translated author abstract) 9 Refs.
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27/3,AB/1 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

5737782 INSPEC Abstract Number: A9723-8170C-037, B9712-0590-032
Title: Development of thermographic NDT for the damage inspection in carbon fiber reinforced plastics
Author(s): Sakagami, T.; Ogura, K.; Kubo, S.
Author Affiliation: Dept. of Mech. Eng., Osaka Univ., Japan
Conference Title: First US-Japan Symposium on Advances in NDT p.420-5
Publisher: American Soc. Nondestructive Testing, Columbus, OH, USA
Publication Date: 1996 Country of Publication: USA 458 pp.
Material Identity Number: XX96-02164
Conference Title: Proceeding os Symposium on Advances in NDT
Conference Sponsor: American Soc. Nondestructive Testing; Japanese Soc. Non- Destructive Inspection
Conference Date: 24-28 June 1996 Conference Location: Kahuku, HI, USA
Language: English
Abstract: A thermographic NDT technique with its application to the defects and damage inspection in carbon fiber reinforced plastics (CFRP) is described. Two methods of the thermographic NDT, a singular method and an insulation method, are examined for the fatigue-damaged and delaminated CFRP plate samples. The singular method, in which a flaw-tip **heat concentration** under electric **current** application is explored for flaw inspection, is found to sensitively detect the failure and fracture of carbon **fibers**. The **insulation** method, on the other hand, in which a surface temperature perturbation is detected for flaw inspection, is found to be useful for the inspection of sub-surface local delamination between carbon fiber fabrics. A combination of these two methods may be useful for the combined damage of fiber failure and delamination in CFRP samples.
Subfile: A B

27/3,AB/2 (Item 2 from file: 2)
DIALOG(R)File 2:INSPEC

02343745 INSPEC Abstract Number: B84062220
Title: Arcing faults in metallic conduit at 120 and 240 volts
Author(s): Fuller, J.F.; Hanna, W.J.; Kallenbach, G.A.
Author Affiliation: Dept. of Electrical & Computer Engng., Univ. of Colorado, Boulder, CO, USA
Conference Title: Conference Record. Industrial & Commercial Power Systems Technical Conference 1984 (Cat. No. 84CH2040-4) p.108-11
Publisher: IEEE, New York, NY, USA
Publication Date: 1984 Country of Publication: USA 216 pp.
U.S. Copyright Clearance Center Code: CH2040-4/84/0000-0108$01.00
Conference Sponsor: IEEE
Conference Date: 7-10 May 1984 Conference Location: Atlanta, GA, USA
Language: English
Abstract: Questions have been raised about fires that have been caused by the failure of electric equipment or wiring in residential or commercial installations. To help resolve these questions, tests have been performed to evaluate various types of **wire** and **insulation** in different environments on 120 and 240 volt AC circuits. Evidence from a recent fire indicated that combustible material lying on the exterior of a conduit was ignited due to an internal arc between a conductor and the metallic conduit wall. Laboratory tests were performed to duplicate the conditions. It was found that arcing faults with **currents** of approximately 20 to 80 A at 120 and 240 V between a conductor and conduit wall can generate sufficient **heat** in a **concentrated** area to vaporize both copper and steel and to cause a hot spot on the external surface of the conduit which can ignite combustible material touching the conduit wall.
Subfile: B

27/3,AB/3 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05847577
E.I. No: EIP01276566968
Title: Effect of heating temperature on dielectric properties of Pb(Zr,Ti)O//3 left bracket PZT right bracket fibers
Author: Park, Y.-I.; Nagai, M.; Miyayama, M.; Kudo, T.
Corporate Source: Adv. Res. Ctr. for Energy and Envt. Musashi Institute of Technology, Tokyo 158-8557, Japan
Source: Journal of Materials Science v 36 n 8 Apr 15 2001. p 1995-2000
Publication Year: 2001
CODEN: JMTSAS ISSN: 0022-2461
Language: English
Abstract: Ferroelectric Pb(Zr//0//.//5//3 Ti//0//.//4//7)O//3 fibers were reproducibly fabricated by sol-gel technique using triethanolamine (TEA) complexed alkoxide. The phase transition from pyrochlore to perovskite took place about 400 degree C and a stable single perovskite phase was obtained at 550 degree C. PZT gel fibers spun through nozzle were **heat**-treated at 700 **degree** C, and at 1000 degree C for 1 h to certify the effect of heat-treatment temperature on the electrical properties. The PZT fibers had elliptical cross sections with diameter of 72 mum-92 mum, and dense microstructure was obtained by **heating** at 1000 **degree** C. In the PZT fibers **heat**-treated at 1000 **degree** C, a distinguishable relative permittivity peak and a pyroelectric **current** peak were observed at their Curie temperature. The P-E hysteresis loops of the crystalline PZT fibers were also observed. copy 2001 Kluwer Academic Publishers. 24 Refs.

27/3,AB/4 (Item 2 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

03630247
E.I. No: EIP93050801908
Title: Method for calculating the continuous admissible load **current** for self-supporting insulated conductors
Author: Ajzen, A.M.; Vyskirka, A.S.
Source: Elektrichestvo n 10 Oct 1992. p 5-8
Publication Year: 1992
CODEN: ELEKA3 ISSN: 0013-5380
Language: Russian
Abstract: Self-supporting insulated conductors are a bundle consisted of three-phase **insulated current**-carrying **cables** twisted around a mechanical load. The thermal calculation of insulation is being made by the variation of a temperature field by the section of an insulated conductor. Asymptotic expressions for temperature distribution by the section of an insulated conductor have been obtained. The paper presents values, calculated according to the method suggested, of continuous admissible **currents** for conductors of SASP and AMKA brands (see a catalogue of the Nokia firm), for the following conditions-the density of a thermal flow of falling radiation qEQ1200w/m**2, the temperature of ambient air-25 degree C and the permissible temperature of insulation **heating** in 90 **degree** C. 13 Refs.

08/01/2002 09/437,226

27/3,AB/6 (Item 1 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

01213845 AADMM58936
INFLUENCE DE LA DEGRADATION THERMIQUE DU POLYETHYLENE SUR SA TENUE DIELECTRIQUE (FRENCH TEXT)
Author: GAGNON, GILLES
Degree: M.SC.A.
Year: 1990
Corporate Source/Institution: ECOLE POLYTECHNIQUE, MONTREAL (CANADA) (1105)
Source: VOLUME 30/02 of MASTERS ABSTRACTS.
PAGE 373. 98 PAGES
ISBN: 0-315-58936-1

This work deals with the effects of thermal degradation on the dielectric strength of crosslinked polyethylene (XLPE) specimens, one of the principal insulating materials used in extruded power distribution cables. Few authors have examined the effect of oxidation. One notable exception is Rohl, who, examining the case of low-density polyethylene (LDPE), found that the breakdown field increases with the oxidation level. The main purpose of the research reported here is to verify the somewhat surprising result of Rohl for the specific case of a strongly thermally degraded **cable insulated** with XLPE.

The author focused on insulation problems in medium-voltage extruded cables. Thermal degradation of the **insulation** of such **cables** is observed mainly when abnormal compression occurs in the part joining the conductors (splice). The most obvious symptom of thermal degradation is the yellow coloring of the XLPE insulation, often associated with oxidation. The **heating**, forced by **intense currents** in the conductor, may be one cause for the premature breakdown of the cable splices. (Abstract shortened by UMI.)

08/01/2002 09/437,226

27/3,AB/7 (Item 1 from file: 305)
DIALOG(R)File 305:Analytical Abstracts

150218 AA Accession No.: 51-11-J-00036 DOC. TYPE: Journal
Use of narrow-gap micro-electrodes as sensitive and species selective gas-chromatographic detectors.
AUTHOR: Brina, R.; Pons, S.
CORPORATE SOURCE: Dept. Chem., Univ. Utah, Salt Lake City, UT 84112, USA
JOURNAL: J. Electroanal. Chem. Interfacial Electrochem., Volume: 264, Issue: 1-2, Page(s): 121-130
CODEN: JEIEBC ISSN: 0022-0728
PUBLICATION DATE: 9 Jun 1989 (890609) LANGUAGE: English
ABSTRACT: Two Pd micro-electrodes (the working and auxiliary electrodes) were formed by coating the tip of a silica rod (diam. 1 mm) with Englehard Liquid Bright Palladium, reducing the coating to a Pd film by **heating** at 625.**degree** . for 1 h, and dividing the film by scoring with a blade along one side of the rod, across the tip and along the other side. The area of each electrode was .simeq.0.25 cm2 and the width of the gap between them was .simeq.10 .mu.m. **Insulated** Cu **wires** were fixed to the electrodes with colloidal silver paint, and the contacts were insulated with epoxy-resin. The electrode assembly, mounted in a Faraday cage, was placed in the outlet port so that the column eluate flowed past the electrodes. The p.d. between the electrodes was applied by a waveform generator, and the **current** was measured with a digital picoammeter. The responses to 1-.mu.l injections of 23 organic compounds are tabulated; these were enchanced by factors of .ltoreq.220 by prior immersion of the electrode tip in 0.2M-H2SO4. Detection limits for 1-.mu.l injections in solvents were typically 10 to 45 ppm. Rectilinear ranges were 1 to 4 decades.

32/3,AB/1 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

03118696 INSPEC Abstract Number: A88044746, B88024362
Title: 1987 Annual Report: Conference on Electrical Insulation and Dielectric Phenomena (Cat. No.87CH2462-0)
Publisher: IEEE, New York, NY, USA
Publication Date: 1987 Country of Publication: USA 540 pp.
Conference Sponsor: IEEE
Conference Date: 18-22 Oct. 1987 Conference Location: Gaithersburg, MD, USA
Language: English
Abstract: The following topics are dealt with: breakdown processes in insulating materials; polarization charge and field mapping; charge storage and transport; high-field engineering, measurement techniques; partial discharges; transformer oil; extruded **dielectric** power **cables**; solid; liquid and gaseous dielectrics; treeing phenomena; hexane; propylene films; electrodes; **electrolyte** solutions; **liquid** crystals; spark gaps; switchgear; semiconductors; rubber; polymers; epoxy resins; photoconductivity; plasmas; Kerr electrooptic technique; electroacoustics; piezoelectricity; XLPE cables; and laser applications. Abstracts of individual papers can be found under the relevant classification codes in this or other issues.
Subfile: A B

08/01/2002 09/437,226

32/3,AB/2 (Item 2 from file: 2)
DIALOG(R)File 2:INSPEC

01258093 INSPEC Abstract Number: A78081003, B78047622
Title: Construction and performance of a new catheter-tip oxygen electrode
Author(s): Jansen, T.C.; Lafeber, H.N.; Visser, H.K.A.; Kwant, G.; Oeseburg, B.; Zijlstra, W.G.
Author Affiliation: Dept. of Paediatrics, Erasmus Univ., Rotterdam, Netherlands
Journal: Medical & Biological Engineering & Computing vol.16, no.3 p.274-7
Publication Date: May 1978 Country of Publication: UK
CODEN: MBECDY ISSN: 0140-0118
Language: English
Abstract: A membrane-covered catheter-tip oxygen-electrode system is described, which gives a linear response in the PO/sub 2/ range of 0-350 mm Hg. The system is highly stable, free from drift and mechanically safe for application in man. This is accomplished by using a screw cap for fastening the membrane holder, thus preventing the loss of parts and making the **electrolyte** chamber really **fluid** tight. **Insulation** of the platinum **wire** with glass precludes the possibility of **fluid** -bridge contact with the silver anode beyond the measuring site at the tip.
Subfile: A B

32/3,AB/3 (Item 1 from file: 6)
DIALOG(R)File 6:NTIS

1831571 NTIS Accession Number: AD-D016 396/4
Corrosion Resistant Shell and Tube Heat Exchanger and a Method of Repairing the Same
(Patent)
Korczynski, J. F. ; Suitt, D. W.
Department of the Navy, Washington, DC.
Corp. Source Codes: 001840000; 110050
Report No.: PAT-APPL-8-049 778; PATENT-5 323 849
Filed 21 Apr 93 patented 28 Jun 94 12p
Languages: English Document Type: Patent
Journal Announcement: GRAI9423
Supersedes PAT-APPL-8-049 778.
This Government-owned invention available for U.S. licensing and, possibly, for foreign licensing. Copy of patent available Commissioner of Patents, Washington, DC 20231.
NTIS Prices: Not available NTIS
A heat exchanger for use in exchanging heat between corrosive or **electrolytic fluids** has wetted components which are comprised of corrosion and erosion resistant materials. The use of corrosion and erosion resistant tube sheets, shell, and tubes permits the heat exchanger to operate at high flow rates to produce turbulent flow through the inlet tube sheet and tubes, thereby optimizing transfer efficiency between a corrosive **fluid** in the tubes and the regenerated **fluid** pumped through the shell. In order to eliminate problems of temperature gradient and vibrations at the area where the tubes are joined to the inlet tube sheet, the shell is comprised of an inner and outer shell section to form annular flow diverting chambers there between. The inner shell section of each chamber is apertured so that flow is diffused over the entire surface, thereby avoiding direct impingement of **fluid** over the tubes.

32/3,AB/4 (Item 2 from file: 6)
DIALOG(R)File 6:NTIS

1337928 NTIS Accession Number: N88-10189/4
Einfluss von Mikroholraeumen Auf die Elektrische Festigkeit Glasfaserverstaerkter Epoxidharz-Formstoffe (Influence of Microvoids on the Electrical Strength of Glass Fiber Reinforced Epoxy Resins)
(Doctoral thesi)
Schramm, J.
Technische Univ. Braunschweig (Germany, F.R.). Fakultaet fuer Maschinenbau und Elektrotechnik.
Corp. Source Codes: 083822002; TJ477961
Sponsor: National Aeronautics and Space Administration, Washington, DC.
Report No.: ETN-87-90443
1985 149p
Languages: German Document Type: Translation
Journal Announcement: GRAI8803; STAR2601
In German, English summary. Sponsored by Deutschen Forschungsgeimschaft.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)321-8547; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
NTIS Prices: PC A07/MF A01
The distribution of microvoids in unidirectionally glass fiber reinforced epoxy resins, and their effect on electrical strength were investigated. Experiments show that glass fibers may contain capillary voids which allow water or **electrolytic liquids** to penetrate the insulating system very quickly. These **electrolytic liquids** lead to a field distortion resulting in overstress in the insulation and partial discharges. A microscopic analysis of glass fiber reinforced epoxy rods reveals numerous small, isolated voids, concentrated in the edges between adjacent fibers. It is shown that no partial discharges occur in these voids, even under high stress, due to their small dimensions. The weak point is the interface between glass fibers and the resin matrix.

32/3,AB/5 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

04941078
E.I. No: EIP97023534061
Title: Complex approach to the diagnostic problem of oil-filled cable lines
Author: Kryuchkov, A.A.; Larina, E.T.; Obraztsov, Yu.V.; Popov, L.V.; Shuvalov, M.Yu.
Source: Elektrotekhnika n 11 Nov 1996. p 59-62
Publication Year: 1996
CODEN: ELKTAQ
Language: Russian
Abstract: A complex approach to the diagnostic problem of oil-filled cable lines is proposed. The approach includes using the following experimental methods: high-efficient **liquid** chromatography, spectrophotometry, **electrolytic** aquametry, thermal analysis (differential scanning calorimetry, thermogravimetric analysis), determination of comparative oil resistivity to partial charges generation, computerized videocontrast microscopy and electric cable specimen testing by the method of double prime breaking-up double prime . The diagnostics should have a dynamic character and an approach to the diagnostics should be not only complex but open and adaptive as well. 3 Refs.

32/3,AB/6 (Item 1 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

01482795 AADAAI9614084
THE THERMAL CONDUCTIVITY OF AQUEOUS **ELECTROLYTE** SOLUTIONS AND POLAR **LIQUIDS** (HEAT TRANSFER)
Author: BLEAZARD, JOSEPH GIBSON
Degree: PH.D.
Year: 1995
Corporate Source/Institution: GEORGIA INSTITUTE OF TECHNOLOGY (0078)
Source: VOLUME 57/01-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
PAGE 502. 219 PAGES

A knowledge of the thermal conductivity of liquids is required in the design of chemical processing equipment involving heat transfer. Unfortunately, experimental values of the liquid thermal conductivity of many compounds are often not available and predictive techniques are seldom adequate for liquids. This is particularly true for highly non-ideal liquids that are strongly polar. This work is therefore concerned with the accurate measurement of the thermal conductivity of polar **liquids** and aqueous **electrolyte** solutions and the subsequent development of models to describe this property.

A transient hot-wire technique was developed to measure the thermal conductivity of electrically conducting liquids. The method employs a single glass capillary filled with liquid mercury to act as an **insulated** hot-**wire**. The apparatus was used to measure the thermal conductivity of aqueous LiBr solutions in the temperature range of 293 to 493 K and a correlation was developed to describe the surface. The results confirm that the thermal conductivity versus temperature trends for a constant composition salt solution are not parallel to that of pure water as once proposed. The thermal conductivity of acetic acid + water mixtures, propionic acid + water mixtures, and three other pure carboxylic acids was also measured. The carboxylic acid + water data resolved conflicts reported in literature. The acid + water data was modeled using the generalized corresponding states principle.

A relative transient hot-wire apparatus employing a bare platinum wire was also used to measure the thermal conductivity of over forty polar liquids (diols, amines, disulfides, alcohol-ethers, pyridines, and ethanoates) at temperatures up to 500 K with estimated accuracy of $\pm$2%. Several of the compounds have been previously reported in literature with conflicting temperature trends. Most of the compounds reported here are new additions to the literature.

The rough hard-sphere (RHS) model was extended for use with polar liquids and was used to correlate both the viscosity and thermal conductivity of over fifty polar liquids. The scheme employs a compound specific characteristic volume V$\sb0$ that is consistent for all transport properties. The thermal conductivity of mixtures was correctly predicted by the RHS model using simple mixing rules with the pure component parameters.

08/01/2002 09/437,226

01aug02 10:10:15 User267149 Session D254.1

SYSTEM:OS - DIALOG OneSearch
  File 350:Derwent WPIX 1963-2002/UD,UM &UP=200248
        (c) 2002 Thomson Derwent
*File 350: Alerts can now have images sent vial all delivery methods.
See HELP ALERT and HELP PRINT for more info.
  File 344:Chinese Patents Abs JuL 1985-2002/JuL
        (c) 2002 European Patent Office
  File 347:JAPIO Oct 1976-2002/Mar(Updated 020702)
        (c) 2002 JPO & JAPIO
*File 347: JAPIO data problems with year 2000 records are now fixed.
Alerts have been run. See HELP NEWS 347 for details.
  File 371:French Patents 1961-2002/BOPI 200209
        (c) 2002 INPI. All rts. reserv.

STIC-EIC 2800 CP4-9C18 Irina Speckhard 308-6559

Set	Items	Description
S1	54105	(INSULAT?????? OR DIELECTRIC???)(3N)(WIRE? ? OR WIRING OR FIBER? ? OR FIBRE? ? OR CABLE? ?)
S2	903343	CURRENT? ? OR (ELECTRIC??????(3N)CHARG??????)
S3	661942	FLUID? ? OR LIQUID? ?(3N)(ELECTROLYT?????? OR ELECTROLYS??-????)
S4	1233	(ELECTROLYT?????? OR ELECTROLYS??????)(3N)PROPERT??????
S5	207035	(ELECTROLYT?????? OR ELECTROLYS??????)
S6	22849	(THERMAL?????? OR THERMO??????? OR HEAT??????)(3N)(IMAGE? ? OR IMAGING)
S7	101	GRAPHIC??????(3N)THERM??????
S8	170	GRAPHIC??????(3N)(THERM?????? OR HEAT??????)
S9	170	S7:S8
S10	16733	(INTENS?????? OR DEGREE OR CONCENTRAT??????)(3N)(HEAT?????-?)
S11	4152	S1 AND S2
S12	114	S11 AND S3
S13	1	S12 AND S4
S14	113	S12 NOT S13
S15	0	S14 AND S4
S16	7	S14 AND S5
S17	7	IDPAT (sorted in duplicate/non-duplicate order)
S18	7	IDPAT (primary/non-duplicate records only)
S19	106	S14 NOT S18
S20	0	S19 AND S6
S21	0	S19 AND S7
S22	0	S19 AND S8
S23	1	S19 AND S10
S24	521	S1 AND (S4 OR S5 OR S6)
S25	0	S24 AND S9
S26	110	S24 AND S2
S27	8	S26 AND S3
S28	8	IDPAT (sorted in duplicate/non-duplicate order)
S29	8	IDPAT (primary/non-duplicate records only)
S30	0	S29 NOT S23,S18,S13
S31	950	S1 AND S3
S32	2	S31 AND S4
S33	1	S32 NOT S29

13/3,AB/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012956939
WPI Acc No: 2000-128789/200012
XRPX Acc No: N00-097106
Integrity inspection method for the **insulation** of a **wire** or cable
Patent Assignee: BRITISH AEROSPACE PLC (BRAX); BAE SYSTEMS PLC (BRAX)
Inventor: JENNINGS M C; TULLOCH J S
Number of Countries: 086 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
GB 2340224	A	20000216	GB 9816737	A	19980801	200012	B
WO 200011484	A1	20000302	WO 99GB2548	A	19990803	200019	N
AU 9951838	A	20000314	AU 9951838	A	19990803	200031	N
			WO 99GB2548	A	19990803		
GB 2340224	B	20010606	GB 9816737	A	19980801	200133	
JP 2001509903	W	20010724	JP 99558921	A	19990803	200147	N
			WO 99GB2548	A	19990803		

Priority Applications (No Type Date): GB 9816737 A 19980801; WO 99GB2548 A 19990803; AU 9951838 A 19990803; JP 99558921 A 19990803
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
GB 2340224	A		20	G01R-031/12	
WO 200011484	A1	E		G01R-031/08	
Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW					
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW					
AU 9951838	A			G01R-031/08	Based on patent WO 200011484
GB 2340224	B			G01R-031/12	
JP 2001509903	W		23	G01N-025/72	Based on patent WO 200011484

Abstract (Basic): GB 2340224 A
Abstract (Basic):
NOVELTY - The method involves passing a **current** through a wire or cable and applying a **fluid** (11) having **electrolytic properties** to the wire or cable. A thermal imaging system is used to detect and display the intensity of heat emanating from the wire or cable. An ammeter (23) may be used to detect leakage **current** being conducted by the **fluid** between damage sites in the **insulation** of the **wire** or cable.

USE - For inspecting the integrity of the **insulation** of a **wire** or cable (claimed) in e.g. the aircraft industry.

ADVANTAGE - Provides a more accurate method of determining the extent of damage to the **insulation** of **wires** and **cables**. Can even be used to inspect wires deep within pre-installed wiring looms.

DESCRIPTION OF DRAWING(S) - The drawing shows a schematic plan view

of apparatus used in two steps of the method.
Spray dispenser (10)
Electrolytic **fluid** (11)
Ammeter (23)
Oscilloscope (24)

18/3,AB/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013759944
WPI Acc No: 2001-244156/200125
XRAM Acc No: C01-073182
XRPX Acc No: N01-173834
Primary and secondary batteries useful in digital devices e.g. computers, cellophones contain at least one anode containing magnesium, at least one cathode, an **electrolytic** set between the anode and the cathode and **current** collectors
Patent Assignee: UNIV PADOVA (UYPA-N); UNIV STUDI DI PADOVA (UYPA-N)
Inventor: DI NOTO V; FAURI M
Number of Countries: 095 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200109972	A1	20010208	WO 2000EP7221	A	20000727	200125	B
AU 200062780	A	20010219	AU 200062780	A	20000727	200129	
IT 1307220	B	20011029	IT 99PD179	A	19990729	200233	
EP 1205003	A1	20020515	EP 2000949410	A	20000727	200239	
			WO 2000EP7221	A	20000727		

Priority Applications (No Type Date): IT 99PD179 A 19990729
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200109972	A1	E	38	H01M-010/40	
	Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW				
	Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW				
AU 200062780	A			H01M-010/40	Based on patent WO 200109972
IT 1307220	B			H01M-000/00	
EP 1205003	A1	E		H01M-010/40	Based on patent WO 200109972
	Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL RO SI				

Abstract (Basic): WO 200109972 A1
Abstract (Basic):
NOVELTY - Primary (non-rechargeable) and secondary (rechargeable) batteries contain at least one anode containing magnesium, at least one cathode, an **electrolytic** set between the anode and the cathode, and **current** electrodes. Optionally also the cathode and the **electrolyte** contain magnesium.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following: (A) use of delta magnesium chloride or Grignard magnesium as ionic species of magnesium for the **electrolyte**; (B) production of batteries involving preparing the anode containing magnesium in various states of oxidation (Mgn+) optionally combined with metallic Mg.
n=0 - 2.
The anode has a base of metallic magnesium or other magnesium on a

substrate of highly conductive inorganic or organic materials or in inorganic or organic materials for intercalation or embedding of the magnesium, optionally preparing the cathode containing species of magnesium in the state of oxidation 2+ having the substrate of highly conductive inorganic or organic materials or in inorganic or organic materials for intercalation or embedding of the magnesium, and/or preparing the **electrolyte** containing an ionic species of magnesium in solvents that are capable of producing **electrolytes** having good ionic conductivity and of solvating the species; and (C) a method for setting magnesium batteries containing the anode, the cathode, the **electrolyte** and the **current** collectors and optionally dielectric spacer in contact between one another involving setting the **electrolyte** between the anode and the cathode between room temperature and approximately 150degreesC.

USE - As non-rechargeable and rechargeable batteries (claimed) in the presence of new portable digital electronic devices e.g. computers, cellophones, videocameras.

ADVANTAGE - The batteries overcome the problems of reactivity and reversibility typical of lithium-based batteries. It also allows a reduction in production costs. The batteries are suitable in portable digital electronic equipment. Thus the technical performance is superior as compared to the prior art batteries. The batteries also have better workability together with a good reactivity and oxide-reducing voltage. It also provides total absence of environmental impacts, given that the components materials are all non-polluting.

18/3,AB/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013533301
WPI Acc No: 2001-017507/200103
XRAM Acc No: C01-005029
XRPX Acc No: N01-013281
Pipeline leak detection and location, comprises use of electrically-pulsed parallel wire and permeable collection line with carrier flow, to detect bursts of **electrolytically**-released substance
Patent Assignee: SIEMENS AG (SIEI)
Inventor: JAX P
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 19924560	C1	20001221	DE 1024560	A	19990528	200103	B

Priority Applications (No Type Date): DE 1024560 A 19990528
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 19924560	C1		6	F17D-005/06	

Abstract (Basic): DE 19924560 C1
Abstract (Basic):
NOVELTY - At controlled intervals, alternating low- (20) and high- (21) electrical potentials are applied to metal wire laid along the pipeline. A leak tracer- or indicator-substance is produced **electrolytically**, by the action of the high- but not the low electrical potential, on the leaked **fluid**.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for corresponding equipment. The collection line permeable to the **electrolytically**-released substance is connected to a pump and sensor (at opposite ends), and has the metal wire along it. This is connected to the negative pole of a direct **current** source under time control as described.

Preferred Features: High potential is maintained for a short interval; low potential for a long interval, in alternation. The long interval is 2-30 times the short. The low potential suffices only for cathodic protection of the wire. The high potential is adequate for **electrolysis** in addition, at the end of a long metal wire. In the equipment used, the positive pole of the direct **current** source is earthed. At intervals along the metal **wire**, there is no **insulation** around its circumference

USE - To detect and locate leakage from a pipeline, where at least some of the leaked substance can be electrolyzed to form a suitable tracer material.

ADVANTAGE - Leakage at any point along a lengthy pipeline can be detected. An example of leaked **fluid** is salt water. No false measurement is caused by groundwater, because of the short duration of high potential. An adequate voltage is applied, to assure **electrolytic** action at any distance along the wire. Many

kilometers can be monitored. Preferably potential and duration are adjustable for a series of tests optimized for any pipeline.

DESCRIPTION OF DRAWING(S) - The figure shows a timing diagram, showing the series of pulses applied to the wire.

Low potential (20)

High potential (21)

pp; 6 DwgNo 3/4

18/3,AB/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012398704
WPI Acc No: 1999-204811/199917
XRAM Acc No: C99-059617
Fast-detaching electrically insulated implant
Patent Assignee: ELLIS R J (ELLI-I)
Inventor: ELLIS R J
Number of Countries: 083 Number of Patents: 006
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9910895	A1	19990304	WO 98GB2562	A	19980826	199917	B
AU 9888724	A	19990316	AU 9888724	A	19980826	199930	
GB 2343786	A	20000517	WO 98GB2562	A	19980826	200027	
			GB 20003979	A	20000222		
EP 1016093	A1	20000705	EP 98940388	A	19980826	200035	
			WO 98GB2562	A	19980826		
CN 1276906	A	20001213	CN 98810152	A	19980826	200118	
JP 2001514394	W	20010911	WO 98GB2562	A	19980826	200167	
			JP 2000508119	A	19980826		

Priority Applications (No Type Date): GB 9717877 A 19970826
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9910895	A1	E	25	G21K-001/00	
Designated States (National): AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW					
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW					
AU 9888724	A			G21K-001/00	Based on patent WO 9910895
GB 2343786	A			G21K-001/00	Based on patent WO 9910895
EP 1016093	A1	E		G21K-001/00	Based on patent WO 9910895
Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IT LI LU NL PT SE					
CN 1276906	A			G21K-001/00	
JP 2001514394	W		61	G21K-001/00	Based on patent WO 9910895

Abstract (Basic): WO 9910895 A
NOVELTY - Disclosed is a method of placing an implant inthe vasculature of a human body, wherein a core wire (110)extending from the distal end of a catheter has at its distal tip an **electrolytic** joint (112) and the implant (120). The core **wire**(110) is electrically **insulated** throughout its length except for the connection to one pole of a power supply at its proximal end and connection to the implant (120) at the distal end. The other pole is attached to a patch placed on the patient's skin to complete the circuit. The implant is shown as a helically wound coil (130) with an end (132) and a stretch-resisting member (134)of metallic wire or polymeric thread such as polypropylene through its centre lumen. The

implant has an outer insulative layer of oxide forming material such as tantalum which, when in contact with bodily **fluids**, forms an oxide layer which is less susceptible to **electrolysis** than the **electrolytically** severable joint.

USE -For placing an implant in the human vasculature.

ADVANTAGE - An application of electric **current** to the **electrolytic** joint causes its rapid erosion, separating the implant from its deployment means.

18/3,AB/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010580901
WPI Acc No: 1996-077854/199609
XRPX Acc No: N96-064788
Endoscopic appts for high-frequency electrosurgery in body cavity - is wired to external high-frequency generator supplying **current** through parallel conductors to distal active and neutral electrodes
Patent Assignee: OLYMPUS WINTER & IBE GMBH (OLYU)
Inventor: KORTH K
Number of Countries: 017 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 4425015	A1	19960125	DE 4425015	A	19940715	199609	B
WO 9602196	A1	19960201	WO 95EP2554	A	19950701	199611	
DE 4425015	C2	19970116	DE 4425015	A	19940715	199707	
EP 771175	A1	19970507	EP 95924958	A	19950701	199723	
			WO 95EP2554	A	19950701		
US 5885277	A	19990323	WO 95EP2554	A	19950701	199919	
			US 97765642	A	19970227		

Priority Applications (No Type Date): DE 4425015 A 19940715
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 4425015	A1		6	A61B-017/39	
WO 9602196	A1	G	19	A61B-017/39	
Designated States (National): US					
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE					
DE 4425015	C2		9	A61B-017/39	
EP 771175	A1	G	6	A61B-017/39	Based on patent WO 9602196
Designated States (Regional): DE FR GB					
US 5885277	A			A61B-017/36	Based on patent WO 9602196

Abstract (Basic): DE 4425015 A

The endoscope (4) inserted eg into the bladder (1) via the urethra (3) has eg a rubber membrane closure (6) at the proximal end of its shaft (5) with connections (7, 10) for influx and outflow of rinsing **fluid**. The neutral electrode (20) is fitted to the distal end of a **wire** (21) through an **insulating** plastic sleeve (22) into which **electrolyte** is pumped (24). It is fitted at a distance from the active (16) electrode. Both electrodes are connected to the HF generator (18) by isolating wires (15,21).

An eyepiece (13) is associated with an objective lens (12) at the distal end. It is inclined at an angle to the axis for viewing the site (10) of contact of the active electrode on the wall of the cavity.

ADVANTAGE - Treatment applied with proper control of depth of tissue heating and with due regard for electrical safety. Avoids problems of stray **currents**.

18/3,AB/5 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX

009571254
WPI Acc No: 1993-264802/199333
Related WPI Acc No: 1985-045935; 1985-142502; 1985-318347; 1987-081151; 1987-081152; 1990-376300; 1991-163711; 1995-066520
XRAM Acc No: C93-118105
XRPX Acc No: N93-202964
Sensor for detecting and locating liq. presence - comprising helically wound wires with conductive polymer jackets passing **current** when wet
Patent Assignee: RAYCHEM CORP (RAYC)
Inventor: BONOMI M; BROOKS P L; FRANK L M; HAUPTLY P D; LAHLOUGH J; MASIA M ; REED J P; REEDER L R; STEWART R F; TOLLES T W; WASLEY R S; WELSH L
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5235286	A	19930810	US 83509897	A	19830630	199333	B
			US 83556740	A	19831130		
			US 83556829	A	19831201		
			US 84599047	A	19840411		
			US 84603484	A	19840424		
			US 84603485	A	19840424		
			US 84618108	A	19840607		
			US 84618109	A	19840607		
			US 85744170	A	19850612		
			US 85787278	A	19851015		
			US 85838725	A	19851015		
			US 86832562	A	19860220		
			US 89306237	A	19890202		
			US 89372179	A	19890627		
			US 91698012	A	19910509		

Priority Applications (No Type Date): US 83509897 A 19830630; US 83556740 A 19831130; US 83556829 A 19831201; US 84599047 A 19840411; US 84603484 A 19840424; US 84603485 A 19840424; US 84618108 A 19840607; US 84618109 A 19840607; US 85744170 A 19850612; US 85787278 A 19851015; US 85838725 A 19851015; US 86832562 A 19860220; US 89306237 A 19890202; US 89372179 A 19890627; US 91698012 A 19910509
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5235286	A		17	G01R-031/08	CIP of application US 83509897
					CIP of application US 83556740

Abstract (Basic): US 5235286 A

Elongate sensor for detecting and locating the presence of a liquid has spaced apart first and second elongate electrical connection means having near and far ends adjacent each other respectively and linear resistance such that the resistance of either from its near end to any point is proportional to the length from its near end to that point and each comprising an elongate metal core (1,2) electrically surrounded by

a conductive polymer compsn. jacket (4,5) consisting of polymer contg. sufficient amount of particulate conductive filler to render it conductive at ambient temp., the connection means being electrically insulated from each other between their near and far ends in the absense of liq. but becoming electrically connected in the presence of liq. and the location of the liquid being identifiable. The sensor includes third elongate electrical connection means (3) having near and far ends which is an **insulated wire,** which remains electrically **insulated** from the first and second electrical connection means both in the absence of and presence of **fluid,** and an elongate insulating core (4). The three connection means are physically secured together and at least one of them is spirally wrapped around the core at constant pitch.

USE/ADVANTAGE - Sensor can be designed to detect the presence of water or an **electrolyte** or a hydrocarbon **liquid** causing swelling. It not only detects the presence of liquid but can pin-point its location.

Dwg.2/11

18/3,AB/6 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX

008764548
WPI Acc No: 1991-268561/199137
XRPX Acc No: N91-205100
Manufacture of electrical probes - uses **electrolytic** process to reduce wire section to fine tapered tip
Patent Assignee: FORSCHUNGSZENT JUELICH GMBH (KERJ); FORSCHUNGSZENTRUM JUELICH GMBH (KERJ)
Inventor: BOCHEM H; GODDENHENR T; HARTMANN U; LEMKEE H; GOEDDENHENRICH T; LEMKE H
Number of Countries: 009 Number of Patents: 006
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 445679	A	19910911	EP 91103178	A	19910302	199137	B
DE 4007291	A	19910919	DE 4007291	A	19900308	199139	
DE 4007291	C	19920109				199202	
US 5145564	A	19920908	US 91665768	A	19910307	199239	
EP 445679	A3	19920708	EP 91103178	A	19910302	199334	
EP 445679	B1	19950215	EP 91103178	A	19910302	199511	

Priority Applications (No Type Date): DE 4007291 A 19900308
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 445679	A				
Designated States (Regional): CH FR GB IT LI NL SE					
US 5145564	A		7	C25F-003/02	
EP 445679	B1	G	6	B23H-003/04	
Designated States (Regional): CH LI					

Abstract (Basic): EP 445679 A

The **electrolytic** process used to manufacture probes has a wire (1) fed into a vessel that has an insulating **fluid** (4) and an **electrolytic** solution (3). Tubes (6, 7) provide a measure of the levels in the vessel.

The end of the wire is clamped in an holder (10) returned in a guide (11). Immersed in the vessel is a ring electrode (16) coupled by a wire (17) that passes through a guide (20). When the **electrolytic** process is activated material is removed (1c) to form a tip on a separated section (1b).

ADVANTAGE - Forms high precision probe. (7pp Dwg.No.1/2

Abstract (Equivalent): DE 4007291 C

Electrically-conductive probe tips are formed by immersing conductive wire in an **electrolyte** solution. The latter consists of a layer of liquid enclosed by an insulator, with which the portion of the wire to form the tip and between the guided and free ends is brought into contact.

The free end of the wire is passed through the layer and into the insulator. During the process the cross-section is reduced by a predetermined amount by stretching until the free end breaks off from the guided one.

ADVANTAGE - Accurately forms finest-possible tips

Abstract (Equivalent): EP 445679 B

A method of producing electrically conducting probe tips by the **electrolytic** machining of a wire (23) made of electrically conducting material, wherein the wire (23) is immersed in an **electrolytically** active **liquid** layer (30) of an **electrolyte** solution which is surrounded by at least one insulator acting as an electrical **insulator**, and wherein a **wire** region (23c) which is provided for the formation of the probe tip is brought into contact with the **electrolytically** active **liquid** layer (30) between a guided (23a) and a free end (23b) of the wire (23) and the guided and free ends of the wire (23a, 23b) are introduced into the **insulator**, and wherein the **wire** region (23c) is stretched during its **electrolytic** machining with a predetermined reduction of its wire cross-section until the free end (23b) is detached form the guided end (23a), wherein air is used as the insulator and the **electrolyte** solution forms a **liquid** membrane (30) spaced on a ring electrode (31).

Dwg.2/2

Abstract (Equivalent): US 5145564 A

The method comprises a wire of electrically conductive and **electrolytically** erodible material into an **electrolytically** effective **liquid** layer formed by an **electrolyte** solution and flanked by electrically insulating layers so that a zone on the wire is exposed to the liquid layer. The wire is guided in a region of the wire adjacent the zone, and a portion of the wire on an opposite side of the zone from the region forms a free end of the wire extending into one of the electrically insulating layers.

The zone of the wire is **electrolytically** eroded to progressively reduce a cross section of the wire in the zone until the free end is separated by the **electrolytic** eroding of the zone from the region, thereby forming a probe tip on the region. The wire is inserted from above into a bath in which the liquid layer overlies an insulating liquid layer of greater specific gravity than **electrolyte** solution, the free end extends downwardly into the insulating liquid layer.

USE/ADVANTAGE - For channel and power scanning microscopy, measurement of tunnel **current**. Provides fine probe tips with high precision and reproducibility.

18/3,AB/7 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX

003721153
WPI Acc No: 1983-717345/198330
XRAM Acc No: C83-069320
Electrolytic swimming-pool chlorination appts. with titanium electrode - with open structure preventing gas build-up and allowing inspection
Patent Assignee: DURACK M J (DURA-I)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
AU 8291049	A	19830609				198330 B

Priority Applications (No Type Date): AU 811776 A 19811201; AU 8291049 A 19821201
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
AU 8291049	A		14		

Abstract (Basic): AU 8291049 A

Electrolytic cell for chlorinating water in a swimming pool or similar applications consists of anode and cathode assemblies made from titanium coated with platinum iridium alloy. The electrode assembly is surrounded by a protective pastics shield. Electric **current** is supplied to the cell through an **insulated cable** which, where it bonds onto the electrodes, in protected from corrosive attack by 'potting' in epoxy resin.

It is possible to place the chlorination cell in any part of the pool but it is particularly suitable for installation behind the weir door of the pool skimmer weir. **Electrolyte** for the operation of the cell is provided by the addition of a mixture of sodium chloride and a small amount of hydrochloric acid to the pool water to give a concentration of 0.3-1.0% NaCl. Pref. operating voltage is 10.5 volts with an electrode **current** density 80 amp/m2.

Conventional chlorination equipment operates in the outlet stream of the recirculation pump so that operation is restricted to times when the pump is in operation. By placing the cell in open **fluid** it may be allowed to work continuously at a lower **current** and still provide the same chlorination effect. The open structure of the cell prevents the build up of dangerous and potentially explosive gas concentrations. Similarly the open structure permits easy inspection of the unit while in operation for any build up of calcium deposits.

23/3,AB/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

008866944
WPI Acc No: 1991-370970/199151
XRPX Acc No: N91-284027
Coil for simultaneous heat and magnetic field generation - has block consisting of several coils interconnected in parallel allowing balance of heat and magnetic field generation
Patent Assignee: OIGAWA S (OIGA-I); FUJIKURA LTD (FUJD); OIGAWA N (OIGA-I); OOIGAWA N (OOIG-I); OOIGAWA S (OOIG-I)
Inventor: OIGAWA S
Number of Countries: 011 Number of Patents: 006
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 462005	A	19911218	EP 91401564	A	19910612	199151	B
CA 2044514	A	19911215				199211	
JP 4049877	A	19920219	JP 90156441	A	19900614	199214	
JP 4208502	A	19920730	JP 90341263	A	19901130	199237	
US 5164626	A	19921117	US 91714236	A	19910612	199249	
TW 200616	A	19930221	TW 91104554	A	19910611	199329	

Priority Applications (No Type Date): JP 90341263 A 19901130; JP 90156441 A 19900614
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 462005	A				
Designated States (Regional): BE DE FR GB IT NL SE					
JP 4049877	A		4		
JP 4208502	A		3	H01F-005/02	
US 5164626	A		13	H02K-003/24	
TW 200616	A			H02N-010/00	

Abstract (Basic): EP 462005 A
A flat disc-shaped heat and magnetic field generating coil (1) comprises multiple loops of electrically conductive wire (2) having heat resistant **insulation**. The **wire** conductance ratio is 5 to 95% and its diameter 0.2 to 3 mm. The ceramic insulating layer has a thickness of 20 to 50 microns.
Ideally the coil has up to 750 concentric layers and the hard semi-rigid shape is maintained by resin dipping the finished coil. The coil shape is not restricted to a circular format and may be utilised in many assemblies.
USE/ADVANTAGE - E.g. for heat generator motors, hot air blower and submersible water heater. Reduced heat deterioration of insulation. Overheating is avoided and magnetic vibration, noise and damage is minimised. No need for separate heating elements. (10pp Dwg.No.1/11)1
Abstract (Equivalent): US 5164626 A
Component coil blocks, coil elements and hardened coils provided efficient an simultaneous generation of **heat** and an **intense** magnetic field. The hardened coil includes multiple loops of **insulated** electrically conductive **wire** wound to form a flattened hollow disc shaped configuration which is then hardened to

preserve its form. The insuated electrically conductive wire is made of a conductive core having a conductance ratio of 5 to 95% and a heat resistance electrically insulating layer surrounding the conductive core.

The coil element includes one or more hardened coils which are sandwiched tightly between a pair of radiating plates formed from magnetic material, with an insulating layer intervening between each surface f a given hardened coil and respective adajcent radiating plate. The coil blocks include multiple coil elements, interconnected by means of a heat resistant electrically insulating hollow core member which passes through the hollow central section of each component coil element.

USE - Heat generating motor capable of efficiently producing a high flow rate **current** of a **fluid** heating to a high temperature, producing minimal magnetic vibration.

33/3,AB/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013328747
WPI Acc No: 2000-500686/200045
XRAM Acc No: C00-150466
XRPX Acc No: N00-371073
Photosensitive palladium polymeric chelate compound for non-**electrolytic** coating **liquids** for plating and formation of fine wire patterns comprises palladium, oxalic acid and polyvinyl alcohol in fixed molar ratio
Patent Assignee: SUMITOMO CEMENT CO LTD (SUMD)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 2000147762	A	20000526	JP 98338410	A	19981113	200045	B

Priority Applications (No Type Date): JP 98338410 A 19981113
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2000147762	A		8	G03F-007/029	

Abstract (Basic): JP 2000147762 A

A photosensitive palladium polymeric chelate compound (I) comprising palladium, oxalic acid, and polyvinyl alcohol whose degree of polymerization is 1500. The molar ratio of oxalic acid and palladium is 0.3-4.5 and the weight ratio of polyvinyl alcohol and palladium is 0.5-12. An INDEPENDENT CLAIM is also included for a non-**electrolytic** coating **liquid** for plating comprising (I) and formation of a fine metal wire pattern which involves applying a coat of (II) on a substrate and developing the film to form a predetermined pattern.

USE - (I) is useful in semiconductor devices as mounting component, in flat panel display devices, as tester for electronic component evaluation, probe card, IC card, optical devices and for formation of fine wire patterns such as flat surface coils formed with a metal electrode, non-contact card etc. They are useful for preparation of non-**electrolytic** coating **liquid** for plating.

ADVANTAGE - The photosensitive palladium compound containing material has high sensitivity to exposure opposing to the excitation energy, is excellent in image development property, catalytic activity and non-**electrolytic** plating **property**. The film formed by (II) is homogeneous and the fine metal **wire** pattern excellent in **insulation** can be formed easily using (II).

EXAMPLE - (All in weight parts) The coating liquid for photosensitive layers having Indian ink comprises 4,4'-bisdiethyl amino benzophenone (0.60) and 2-benzyl-2-dimethylamino-1- (4-morpholino phenyl)-butanone-1 (1.40) so that compounding ratio was 30:70 (%). A polyethylene telephthalate film thickness of 100&mgr;m was used as the protection film. Image formation material was stuck on coated paper to transfer the image and no defects such as greasing was observed. The quality of printed matter was good. The image formation material after 1 year of preservation in a humidistat at 40°C showed same picture

quality as before and no blocking was caused after peeling of the protection film. The figure shows the chemical structure of the photosensitive palladium polymeric chelate compound

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 01aug02 09:02:29 User267149 Session D252.1

File 342:Derwent Patents Citation Indx  1978-01/200209C
       (c) 2002 Thomson Derwent
*File 342: Updates 200160-200209 replaced. See HELP NEWS 342.
Alert feature enhanced for multiple files, etc. See HELP ALERT.

? S PN=(US 4473795 OR US 4584523 OR US 6144032)
? MAP PN/CT=
? MAP PN/CG=

? EXS SD107
? EXS SD108
? MAP PN
 01aug02 09:07:06 User267149 Session D252.2

SYSTEM:OS  - DIALOG OneSearch
  File 350:Derwent WPIX  1963-2002/UD,UM &UP=200248
        (c) 2002  Thomson Derwent
*File 350: Alerts can now have images sent vial all delivery methods.
See HELP ALERT and HELP PRINT for more info.
  File 347:JAPIO  Oct 1976-2002/Mar(Updated 020702)
        (c) 2002 JPO & JAPIO
*File 347: JAPIO data problems with year 2000 records are now fixed.
Alerts have been run.  See HELP NEWS 347 for details.

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? EXS

Set     Items   Description
S1          9   PN=AU 636018 + PN=AU 639556 + PN=AU 9173080 + PN=AU 9175893
              + PN=BR 7903827 + PN=CA 1131808 + PN=CA 1148670 + PN=CA 1162-
             329 + PN=CA 1205581 + PN=CA 2046896 + PN=CA 958128 + PN=DE 22-
             45851 + PN=DE 2824308 + PN=DE 2860935 + PN=DE 2917473
S2         10   PN=DE 3102337 + PN=DE 3107327 + PN=DE 3277153 + PN=DE 3337-
             768 + PN=DE 69127412 + PN=EP 316100 + PN=EP 466920 + PN=EP 47-
             0226 + PN=EP 489 + PN=EP 56972 + PN=EP 5762 + PN=ES 2109266 +
             PN=FI 7801381 + PN=FR 2153321 + PN=FR 2425066
S3         10   PN=FR 2477713 + PN=GB 1364575 + PN=GB 2020421 + PN=GB 2071-
             312 + PN=GB 2128736 + PN=GB 2212264 + PN=IL 96894 + PN=IL 968-
             95 + PN=JP 4504310 + PN=JP 4504472 + PN=JP 54042981 + PN=JP 5-
             4149697 + PN=JP 80035857 + PN=KR 251345 + PN=KR 261529
S4         10   PN=NL 8100948 + PN=NL 8303640 + PN=NO 8100657 + PN=SE 7903-
             869 + PN=SU 1291033 + PN=US 3772520 + PN=US 3780303 + PN=US 4-
             125440 + PN=US 4209695 + PN=US 4278885 + PN=US 4296372 + PN=US
              4317993 + PN=US 4365154 + PN=US 4387302
S5          9   PN=US 4499380 + PN=US 4851687 + PN=US 5021664 + PN=US 5068-
             532 + PN=US 5076993 + PN=US 5098640 + PN=US 5239568 + PN=WO 9-
             111009 + PN=WO 9111010 + PN=ZA 7902076 + PN=ZA 8108410
S6         19   S1:S5
S7          0   S6 AND ((INSULAT?????? OR DIELECTRIC???)(3N)(WIRE? ? OR WI-
             RING OR FIBER? ? OR FIBRE? ? OR CABLE? ?))
S8          0   S6 AND ((THERMAL?????? OR THERMO??????? OR HEAT??????)(3N)-
             (IMAGE? ? OR IMAGING))
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CITATION SEARCH - FOR YOUR REFERENCE

08/01/2002 [redacted]

6/3,AB/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

009587389
WPI Acc No: 1993-280935/**199335**
Related WPI Acc No: 1996-277186
XRAM Acc No: C93-125400
Collimator removing selected radiation output from specimen - has passageway elements with lining removing in elastically scattered radiation
Patent Assignee: SCINTICOR INC (SCIN-N)
Inventor: GRENIER R P
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5239568	A	19930824	US 90605721	A	19901029	199335	B

Priority Applications (No Type Date): US 90605721 A 19901029
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5239568	A		19	G21K-001/02	

Abstract (Basic): US 5239568 A

A collimator has a number of elements each with walls forming an elongate longitudinal passageway and absorbing divergent parts of the radiation. The walls are of a first material covered by a second material layer adjacent to the passageway and which removes the selected radiation which has been inelastically scattered from the first material, with the scattered form having less energy.

In partic., the selected radiation is gamma rays, X-rays, positrons or fast neutrons. For a gamma-ray collimator each element pref. comprises a square lead tube and an inner square tin tube, and layers of elements may be assembled to form a desired length of passageway, with an egg crating matrix inserted into the assembly to provide additional resolution.

USE/ADVANTAGE - Partic. for medical use, e.g. for radionuclide angiography, allows greater resolution to be achieved without increasing the radiation signal level.

Dwg.0/14

6/3,AB/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

008734213
WPI Acc No: 1991-238229/**199132**
XRAM Acc No: C91-103629
XRPX Acc No: N91-181681
Contraband detection appts. using direct pulsed fast neutrons - is not limited to drug or explosive detection and obtains data from directly scanning object under test and has higher sensitivity
Patent Assignee: SCI APPL INT CORP (SCIT-N); ANCORE CORP (ANCO-N); SCIENCE APPL INT CO (SCAP-N)
Inventor: GOZANI T; RYGE P; SAWA Z P
Number of Countries: 020 Number of Patents: 011
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9111010	A	19910725				199132	B
AU 9175893	A	19910805				199145	
EP 466920	A	19920122	EP 91907180	A	19910109	199204	
US 5076993	A	19911231	US 90464111	A	19900112	199204	
JP 4504472	W	19920806	JP 91507107	A	19910109	199238	
			WO 91US197	A	19910109		
AU 639556	B	19930729	AU 9175893	A	19910109	199337	
IL 96894	A	19960119	IL 96894	A	19910107	199616	
EP 466920	B1	19970827	EP 91907180	A	19910109	199739	
			WO 91US197	A	19910109		
DE 69127412	E	19971002	DE 627412	A	19910109	199745	
			EP 91907180	A	19910109		
			WO 91US197	A	19910109		
ES 2109266	T3	19980116	EP 91907180	A	19910109	199810	
KR 251345	B1	20000415	WO 91US191	A	19910109	200124	
			KR 91701098	A	19910911		

Priority Applications (No Type Date): US 90464111 A 19900112
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9111010	A				
Designated States (National): AU CA JP KR					
Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LU NL SE					
EP 466920	A				
Designated States (Regional): AT BE CH DE ES FR GB GR IT LI LU NL SE					
JP 4504472	W		12	G01N-023/222	Based on patent WO 9111010
AU 639556	B			G01N-023/222	Previous Publ. patent AU 9175893
					Based on patent WO 9111010
IL 96894	A			G01V-005/02	
EP 466920	B1	E	26	G21G-001/06	Based on patent WO 9111010
Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LI LU NL SE					
DE 69127412	E			G21G-001/06	Based on patent EP 466920
					Based on patent WO 9111010
ES 2109266	T3			G21G-001/06	Based on patent EP 466920
KR 251345	B1			G21G-001/06	

Abstract (Basic): WO 9111010 A

Detection system includes a pulsed accelerator (12) that generates a collimated pulsed neutron beam (13), which is directed towards an interrogation chamber (18) defining a path (15). Object (14) to be investigated is passed by conveyor belt (16) through the interrogation chamber (18), in a direction transverse to the beam path (15).

At any instant of time, beam (13) passes through a known vol. of object (14), where this vol. is centered around the beam path (15). Detector array(s) (20) positioned adjacent the beam path (15), typically mounted inside interrogation chamber (18), through which the object passes as it is probed by the neutron beam. Detector (20) detects gamma rays emitted from object (14) causing a detection signal to be generated and sent to processing circuiting (22). Process circuitry (22) measures the time at which neutrons are produced, energy of the detected gamma ray, and time at which the detection signal is received.

USE/ADVANTAGE - Contraband detection system using pulsed beam of fast neutrons to scan an object for accurately detecting contraband concealed within a container, like a suitcase or trunk. Contraband includes but is not limited to explosives and illicit drugs. (54pp Dwg.No.1/7)

Abstract (Equivalent): EP 466920 B

A contraband detection equipment (10) comprising irradiating means (12) for irradiating an object (14) under investigation with a beam (13) of neutrons; detecting means (20) for detecting gamma rays emitted from the object (14) as a result of interactions between a neutron from the beam of neutrons and an atomic nucleus within the object (14), each gamma ray detected (28) causing a detection signal to be generated; and processing means (22) coupled to the irradiating means (12) and the detecting means (20), the processing means (22) including: means for determining the energy of a detected gamma ray (28) from the detection signal, and means for identifying the particular atomic element which gave rise to the detected gamma ray (28), characterised in that the irradiating means (12) comprises means for directing a collimated pulsed beam (13) of fast neutrons at the object (14) so that the fast neutrons enter a prescribed volume of the object (14) each neutron pulse having a pulse width much shorter than the travel time of the pulsed neutrons across the object to be investigated (14), and the processing means (22) further comprises means for measuring the time of flight of the neutron in the pulsed beam responsible for producing the detected gamma ray (28), means for determining from the time-of-flight measurement the approximate location within the object (14) of the origin of the detected gamma ray (28), and means for detecting a distribution and concentration of at least one atomic element within the object (14) indicative of the presence of contraband (59).

6/3,AB/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

008734212
WPI Acc No: 1991-238228/**199132**
XRAM Acc No: C91-103628
XRPX Acc No: N91-181680
Contraband detection appts. using fast neutron activation - detects in closed container and has low frequency of false alarms and is safe to operate
Patent Assignee: SCI APPL INT CORP (SCIT-N); ANCORE CORP (ANCO-N)
Inventor: GOZANI T; SAWA Z P; SHEA P M
Number of Countries: 020 Number of Patents: 010
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9111009	A	19910725				199132	B
AU 9173080	A	19910805				199145	
EP 470226	A	19920212	EP 91904717	A	19910109	199207	
US 5098640	A	19920324	US 90463025	A	19900110	199215	
JP 4504310	W	19920730	JP 91504369	A	19910109	199237	
			WO 91US179	A	19910109		
AU 636018	B	19930408	AU 9173080	A	19910109	199321	
IL 96895	A	19950629	IL 96895	A	19910107	199538	
EP 470226	A4	19970903	EP 91904717	A		199815	
KR 261529	B1	20000715	WO 91US179	A	19910109	200131	
			KR 91701068	A	19910909		
CA 2046896	C	20011030	CA 2046896	A	19910109	200203	
			WO 91US179	A	19910109		

Priority Applications (No Type Date): US 90463025 A 19900110
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9111009	A				
Designated States (National): AU CA JP KR					
Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LU NL SE					
EP 470226	A				
Designated States (Regional): AT BE CH DE ES FR GB GR IT LI LU NL SE					
US 5098640	A		17		
JP 4504310	W		46	G01N-023/222	Based on patent WO 9111009
AU 636018	B			G01N-023/222	Previous Publ. patent AU 9173080
					Based on patent WO 9111009
IL 96895	A			G01V-005/14	
KR 261529	B1			G21G-001/06	
CA 2046896	C	E		G01N-023/221	Based on patent WO 9111009

Abstract (Basic): WO 9111009 A

A method of detecting contraband in an object under investigation comprises: a source of fast neutrons (130) directs beam (132) of neutrons towards object (134), the contents of which are to be investigated. Collimator (136) shapes neutron beam (132) to assume a desired cross sectional shape at the point where it strikes the object (134).

Object (134) is carried past the beam (132) within a shielded chamber (135) on a conveyor belt (140). Conveyor belt (140) continues to carry the object (134) through a chamber of X-ray system (150), wherein X-ray source (152) and a corresp. detector are used to produce an ordinary electron density image of the object and its contents.

Array (144) of gamma-ray detectors are selectively positioned around object (134) as it is irradiated by neutron beam (132). Appropriate control circuits (148) interfaces with the above components and is driven by a suitable computer (154).

USE - Nuclear based non-invasive contraband detection system that accurately and rapidly determines the presence of concealed contraband within a closed container like a suitcase or parcel. Contraband detected includes but is not limited to explosives, drugs and alcohol.

Dwg.4/6

Abstract (Equivalent): US 5098640 A

Appts. for detection of items concealed within a suitcase, parcel, etc., consists of a neutron generator (102) producing beams of neutrons (106), which can be collimated (104) towards the e.g. luggage (108) to irradiate a specific area. Interactions of fast neutrons with atomic nuclei within the irradiated area give rise to a gamma ray spectrum, which is measured in a detector (114). Presence or absence of specific energy peaks is monitored with a computer (116) to show `signatures'.

ADVANTAGE - Non-invasive and rapid detection system.

6/3,AB/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

008681279
WPI Acc No: 1991-185299/**199125**
XRPX Acc No: N91-141955
Energy resolution correction for ionising radiation spectrometers - comparing pulses with different peaking times to produce error signal and corrected amplitude pulse
Patent Assignee: TENNELEC NUCLEUS (TENN-N)
Inventor: HINSHAW S M
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5021664	A	19910604	US 90542181	A	19900622	199125	B

Priority Applications (No Type Date): US 90542181 A 19900622

Abstract (Basic): US 5021664 A

Two pulses derived from each output pulse of the detector, each having different peaking times but both containing effects of the ballistic deficit, are compared to produce an error signal related to the difference of the peak heights of these two pulses. A part (or all) of the error signal is added to one of the pulses to produce a corrected amplitude pulse. In order to effectively compare the two pulses, each is separately stretched at its peak height. The corrected amplitude pulse is reformed for better handling by multichannel analyser analog-to-digital converters, with a number of these reformed corrected amplitude pulses then being analysed by the multichannel analyser to achieve a nuclear spectra for which the ballistic deficit has been corrected.

The two pulses that are created from the detector pulses can be of similar shape configuration or can be different in shape. An example is given of a unipolar pulse and a bipolar pulse that is a derivative of the unipolar pulse.

USE - Gamma ray spectra obtained from germanium gamma ray detector. (12pp Dwg.No. 2/5)

6/3,AB/5 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX

008005421
WPI Acc No: 1989-270533/**198937**
XRPX Acc No: N89-206551
Nitrogen detection appts. for explosives - has thermal neutron sensor including converter foil and channeling crystal
Patent Assignee: SCIENTIFIC INNOVATI (SCIN-N)
Inventor: BRONDO J H; ETTINGRER K V
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 4851687	A	19890725	US 872788	A	19870113	198937	B

Priority Applications (No Type Date): US 872788 A 19870113
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 4851687	A		15		

Abstract (Basic): US 4851687 A

The scanning appts. includes several signal processing circuit with a computer controller. The object is placed in a cavity in which a thermal neutron flux is produced by introducing fast neutrons in the presence of a nuclear moderating material. A reaction between the thermal neutrons and the nitrogen contained in the object causes gamma rays to be emitted which are detected and transmitted to the processing electronics to determine the concentration and position of nitrogen in the object. Thermal neutrons sensors are located within the cavity to monitor the amount of thermal neutrons and adjust the thermal neutron flux within the cavity in order to maintain an optimal thermal neutron flux density within the cavity. The adjustment may be effectuated by adjusting the accelerating potential of a neutron accelerator or by adjusting the position of a neutron moderator for use with an isotopic neutron source.

The channeling detector includes a convertor foil secured to a channeling crystal. The channeling crystal produces channeling radiation in response to electrons that travel through the crystal substantially parallel to the plane of the crystal lattice.

USE - Luggage, parcels, etc.

1/12

6/3,AB/6 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX

007881514
WPI Acc No: 1989-146626/**198920**
XRAM Acc No: C89-064850
XRPX Acc No: N89-111957

Analysis oil well borehole log using radioisotope neutrons - having fast neutron and gamma ray detectors selectively building spegra by (anti) coincidence with associated neutron detection

Patent Assignee: UK ATOMIC ENERGY AUTHORITY (UKAT)
Inventor: THOMAS B W; WORMALD M R

Number of Countries: 006 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 316100	A	19890517	EP 88310247	A	19881101	198920	B
GB 2212264	A	19890719	GB 8825563	A	19881101	198929	
US 5068532	A	19911126	US 90496139	A	19900319	199150	

Priority Applications (No Type Date): GB 8726477 A 19871112
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 316100	A	E	14		

Designated States (Regional): DE FR IT NL

Abstract (Basic): EP 316100 A

System for analysis of material comprises (a) irradiating the material with neutrons and detecting resulting gamma rays; characterised by (b) detecting fast neutrons scattered from the material; and (c) registering the number of gamma detection events at at least one selected energy which occur in coincidence or anticoincidence with detection of a scattered neutron.

The appts. is also claimed.

ADVANTAGE - For a useful proportion of inelastic neutron scattering events, it is possible, using a gamma detector and a neutron detector, to detect in coincidence the scattered neutron and the associated gamma ray.

7/7

Abstract (Equivalent): US 5068532 A

For logging of prodn. oil well boreholes, a neutron source (14) is used mounted in a casing (13) of a logging tool (10), along with a neutron detector (15) and a gamma ray detector (16), the detectors being protected by shielding (17). Gamma rays resulting from neutron irradiation of formation rock (12) are detected at at least one selected energy which occurs in coincidence or anti-coincidence with detection of a scattered neutron.

USE/ADVANTAGE - Detection of C and O, or other elements, allowing quantitative measurements.

08/01/2002 [redacted]

6/3,AB/7 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX

003964183
WPI Acc No: 1984-109727/**198418**
XRAM Acc No: C84-046335
XRPX Acc No: N84-081191
Measuring hydrogen content using fast neutron source - esp. for monitoring steam quality in oil-field injection system using moderator and scattered neutron detector
Patent Assignee: ESSO RESOURCES CANADA LTD (ESSO)
Number of Countries: 005 Number of Patents: 006
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
GB 2128736	A	19840502	GB 8328125	A	19831020	198418	B
DE 3337768	A	19840503	DE 3337768	A	19831018	198419	
NL 8303640	A	19840516	NL 833640	A	19831021	198424	
US 4499380	A	19850212	US 82435817	A	19821021	198509	
GB 2128736	B	19860219				198608	
CA 1205581	A	19860603				198627	

Priority Applications (No Type Date): US 82435817 A 19821021
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
GB 2128736	A		21		

Abstract (Basic): GB 2128736 A

Amt. of hydrogenous material in an enclosure is measured using a fast neutron source close to the enclosure. Moderator equivalent to at least 1 cm. of water is placed between the source and enclosure. At least one neutron detector is located close to the enclosure. The detector provides an output representing the rate of detection of neutrons scattered from the hydrogenous material.

Monitoring fractions of steam and water, esp. steam quality in oil field injection system. The method is simple, accurate and non-intrusive.

1/8

Abstract (Equivalent): GB 2128736 B

Apparatus for providing an output corresponding to the amount of hydrogenous material within an enclosure

comprising: a fast neutron source which is incapable of achieving critically and is locatable proximate the position to be occupied by the enclosure during use of the apparatus; moderating material located intermediate the said position for said enclosure and said fast neutron source, said moderating material having a neutron moderating ability at least equivalent to that of a 1cm thickness of water; and a neutron detection system including at least one neutron detector locatable proximate the said position for said enclosure, asaid neutron detection system being adapted to provide an outlet signal representing the rate of detection of neutrons scattered from hydrogenous material.

Abstract (Equivalent): US 4499380 A

ApPts. measuring the amount of H-contg. material in an enclosure comprises a fast neutron source (14) adjacent the enclosure (12) and

sepd. from it by moderating material equivalent to 1 cm thickness of water. A detector (16) is positioned to sense neutrons scattered from material in the enclosure.

There is pref. a thermal neutron shield between detector and moderator, and a neutron reflector (20) around the assembly with a second thermal neutron shield between reflector and detector. The reflector is pref. of hydrogenous material equivalent to 3 cm of water, and there may be two detectors symmetrically about the source centre and enclosure longitudinal axis and with higher detection efficiency for thermal than epithermal neutrons.

USE - For determining relative vol. fractions of steam and water passing through a conduit, e.g. for oilfield steam injection systems.

(16pp)

6/3,AB/8 (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX

003701299
WPI Acc No: 1983-61283K/**198325**
XRAM Acc No: C83-059501
XRPX Acc No: N83-110086

Measuring copper and nickel concentration in borehole formation - using fast neutron source to excite inelastic scattering and detecting gamma radiation in characteristic energy bands

Patent Assignee: MOBIL OIL CORP (MOBI)
Number of Countries: 003 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 4387302	A	19830607				198325	B
ZA 8108410	A	19830603				198336	
CA 1162329	A	19840214				198412	

Priority Applications (No Type Date): US 80221480 A 19801230
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 4387302	A		5		

Abstract (Basic): US 4387302 A

Metallic material in a formation around a borehole is identified by irradiating the formation with pulses of fast neutrons which are sufficiently energetic to cause inelastic scattering by the material. Gamma rays emitted by the inelastic scattering simultaneously with the neutron pulses are detected.

A log of the concn. of the particular metallic material is produced by recording the gamma rays lying within a characteristic energy band as a function of borehole depth.

The process is suitable for measuring concentrations of Cu and Ni.

6/3,AB/9 (Item 9 from file: 350)
DIALOG(R)File 350:Derwent WPIX

003347089
WPI Acc No: 1982-K5110E/**198232**
Resistance trimmer for semiconductors - allows precise setting of environmental conditions to increase uniformity
Patent Assignee: SCHAUMBURG H (SCHA-I)
Inventor: SCHAUMBURG H
Number of Countries: 010 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 56972	A	19820804	EP 82100337	A	19820119	198232	B
DE 3102337	A	19820819				198234	
EP 56972	B	19870902				198735	
DE 3277153	G	19871008				198741	

Priority Applications (No Type Date): DE 3102337 A 19810124
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 56972	A	G	15		
Designated States (Regional): AT BE CH DE FR GB IT LI NL SE					
EP 56972	B	G			
Designated States (Regional): AT BE CH DE FR GB IT LI NL SE					

Abstract (Basic): EP 56972 A
The resistance trimmer uses a laser beam (or other radiation) to alter the resistance of a semiconductor to adjust its properties. The semiconductor is embedded in a system that generates various environmental conditions, e.g. temp., pressure, bending, flow, irradiation, humidity etc. These conditions can be set as required.
Numerous semiconductors may be processed simultaneously. The trimmer can be readily automated. The advantage lies in the precision with which the conditions can be set and the resulting uniformly high quality of the finished semiconducting devices. A second radiation source (SQ2) can be assigned to a time switch (2) that can control the period of main radiation. The latter is directed to the workpiece (B) via a reflector system (SP). Radiation beams (S1,S2) can be individually or collectively directed as desired to the workpiece (B).
2/5
Abstract (Equivalent): EP 56972 B
The resistance trimmer uses a laser beam (or other radiation) to alter the resistance of a semiconductor to adjust its properties. The semiconductor is embedded in a system that generates various environmental conditions, e.g. temp., pressure, bending, flow, irradiation, humidity etc. These conditions can be set as required.
Numerous semiconductors may be processed simultaneously. The trimmer can be readily automated. The advantage lies in the precision with which the conditions can be set and the resulting uniformly high quality of the finished semiconducting devices. A second radiation source (SQ2) can be assigned to a time switch (2) that can control the period of main radiation. The latter is directed to the workpiece (B)

via a reflector system (SP). Radiation beams (S1,S2) can be individually or collectively directed as desired to the workpiece (B). (15pp Dwg.No.2/5)

6/3,AB/10 (Item 10 from file: 350)
DIALOG(R)File 350:Derwent WPIX

003283111
WPI Acc No: 1982-D1121E/**198211**
System constituent analysis of earth formations - analyses in elastic scattering gamma ray energy spectra with background gamma and thermal neutron capture gamma radiation compensation
Patent Assignee: SCHLUMBERGER TECHNOLOGY CORP (SLMB)
Inventor: HERTZOG R C; NELLIGAN W B
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 4317993	A	19820302				198211 B

Priority Applications (No Type Date): US 7940320 A 19790518; US 78869584 A 19780116
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 4317993	A		15		

Abstract (Basic): US 4317993 A

The composition of an earth formation is investigated by repetitively irradiating the formation with bursts of fast neutrons and generating an energy spectrum of the gamma rays resulting from the inelastic scattering of such neutrons by nuclei of the formation. The inelastic scattering gamma ray spectrum is analysed by comparing it with a composite spectrum, made up of standard spectra of constituents postulated to comprise the formation, to determine the proportions in the formation of the postulated constituents.

A background energy spectrum is generated from gamma rays detected during periods between neutron bursts and is utilised to provide one or more standard background spectra for use in the analysis of the inelastic scattering gamma ray spectra. The standard background spectrum or spectra are pref. updated on a repetitive basis to reflect the current background component in the detected inelastic scattering gamma ray spectrum.

6/3,AB/11 (Item 11 from file: 350)
DIALOG(R)File 350:Derwent WPIX

003207980
WPI Acc No: 1981-68533D/**198138**
Analysis of multiphase fluid contg. liq. and free gas - from high energy gamma ray spectra
Patent Assignee: TEXACO DEV CORP (TEXC)
Inventor: ARNOLD D M; PAAP J H
Number of Countries: 007 Number of Patents: 008
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
GB 2071312	A	19810916	GB 812723	A	19810129	198138	B
FR 2477713	A	19810911				198142	
NO 8100657	A	19810928				198143	
NL 8100948	A	19811001				198144	
DE 3107327	A	19811224				198201	
US 4365154	A	19821221				198302	
CA 1148670	A	19830621				198328	
GB 2071312	B	19840725				198430	

Priority Applications (No Type Date): US 80127700 A 19800306
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
GB 2071312	A		13		

Abstract (Basic): GB 2071312 A

Multiphase fluid contg. liq. and gas and flowing in a conduit is analysed by (a) bombarding with fast neutrons which, on slowing down, engage in thermal neutron capture reactions with materials in the fluid and produce gamma-ray spectra thereof; (b) obtaining a measure of the concn. of hydrogen in the fluid from the spectra and then obtaining the hydrogen index from the latter; (c) obtaining a measure of the concn. of chlorine from the gamma-ray spectra and then obtaining a ratio of chlorine concn. to hydrogen chlorine; and (d) obtaining a measure of the common salt content of the fluid from the concn. ratio of chlorine to hydrogen and the hydrogen index.

The method is esp. for detecting impurities such as salt water and sulphur in petroleum refining and producing operations. The gas/liq. ratio of the fluid can also be computed.

6/3,AB/12 (Item 12 from file: 350)
DIALOG(R)File 350:Derwent WPIX

002531702
WPI Acc No: 1980-49729C/**198028**
Measurement of impurities in petroleum flow line - using fast neutron irradiation and gamma ray analysis to determine salt water, sulphur and gas content
Patent Assignee: TEXACO INC (TEXC)
Inventor: ARNOLD D M; LANGFORD O M; PEELMAN H E
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 4209695	A	19800624				198028 B

Priority Applications (No Type Date): US 78872981 A 19780127; US 76748072 A 19761206

Abstract (Basic): US 4209695 A

Fluid in a conduit is analysed by bombardment with fast neutrons.

The neutrons are thermalised and captured in the fluid to produce characteristic gamma ray spectra. The spectra indicate chlorine concentration, enabling determination of salt water in the fluid. At the same time sulphur concn. is deduced from the gamma spectra, and the proportion of gas in the fluid is determined from the chlorine concentration.

The process may be used for detecting impurities in petroleum, either in crude or refined form. Previously chlorine content was determinable only by chemical analysis.

6/3,AB/13 (Item 13 from file: 350)
DIALOG(R)File 350:Derwent WPIX

002185288
WPI Acc No: 1979-L5242B/**197950**
Non-destructive non-contacting test system for integrated circuits - induces voltage into body of circuit using electron beam passing through silicon dioxide layer and acting as switch
Patent Assignee: SIEMENS AG (SIEI)
Inventor: FEUERBAUM H P
Number of Countries: 005 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 5762	A	19791212				197950	B
DE 2824308	A	19791213				197951	
US 4296372	A	19811020				198145	
EP 5762	B	19811230				198202	

Priority Applications (No Type Date): DE 2824308 A 19780602
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 5762	A	G			
Designated States (Regional): FR GB NL					
EP 5762	B	G			
Designated States (Regional): FR GB NL					

Abstract (Basic): EP 5762 A

A metal film (22) is deposited onto the surface of the protective insulating layer (20) (SIO2) covering the integrated circuit. A test voltage (U) is applied to this film. The electron beam (S1, S2) is directed at the metal film and its accelerating voltage is chosen so that a diffusion cloud (26, 28) is formed within the insulating layer. The diffusion cloud connects the metal film electrically to the component (10, 14, 16, 20) in the body of the circuit as a result of the conductivity induced by the electron beam.

The electron beam therefore acts merely as a short circuiting switch that connects the metal film to a conducting region, e.g. a conducting path, inside the integrated circuit.

Integrated circuits can be tested without puncturing their insulating (SiO2) layer by contact needles.

6/3,AB/14 (Item 14 from file: 350)
DIALOG(R)File 350:Derwent WPIX

002176848
WPI Acc No: 1979-K6798B/**197946**
Measuring basic component content of material - using gamma radiation detector at or in sample protected against fast neutrons by heavy water
Patent Assignee: OUTOKUMPU OY (OUTO)
Inventor: LUKANDER T A; RAUTALA P; VONALFTHAN G C
Number of Countries: 011 Number of Patents: 013
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 2917473	A	19791108				197946	B
GB 2020421	A	19791114				197946	
SE 7903869	A	19791203				197951	
JP 54149697	A	19791124				198002	
FI 7801381	A	19791231				198004	
FR 2425066	A	19800104				198008	
ZA 7902076	A	19800410				198030	
BR 7903827	A	19801215				198102	
US 4278885	A	19810714				198131	
GB 2020421	B	19820922				198238	
CA 1131808	A	19820914				198245	
DE 2917473	C	19831103				198345	
SU 1291033	A	19870215				198740	

Priority Applications (No Type Date): FI 781381 A 19780504

Abstract (Basic): DE 2917473 A
The measuring device uses the gamma absorption method. It consists of an isotope source or a neutron generator as a neutron source (4), a semi-conductor detector for gamma radiation and a moderator (3) consisting, at least partly, of heavy water.
The detector is placed directly near, or in, the samples in a stream of slow neutrons. There is enough mode rator between the source and the sample-detector combination to ensure that the detector is only slightly damaged by fast netrons.

6/3,AB/15 (Item 15 from file: 350)
DIALOG(R)File 350:Derwent WPIX

002072868
WPI Acc No: 1978-85943A/**197847**
Mapping damage sites in semiconductor wafers - by immersing in an electrolyte and electrically generating hydrogen bubbles at damage sites
Patent Assignee: IBM CORP (IBMC)
Inventor: MARKOVITS G
Number of Countries: 005 Number of Patents: 006
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 4125440	A	19781114				197847	B
EP 489	A	19790207				197906	
JP 54042981	A	19790405				198041	
JP 80035857	B	19800917				198041	
EP 489	B	19810812				198134	
DE 2860935	G	19811112				198147	

Priority Applications (No Type Date): US 77818908 A 19770725
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 489	A	G			
Designated States (Regional): DE FR GB					
EP 489	B	G			
Designated States (Regional): DE FR GB					

Abstract (Basic): US 4125440 A
Electrically active damage sites in a monocrystalline semi-conductor substrate are located by immersing the substrate in a dil. electrolyte which contains H3O+ ions, illuminating the surface with light of intensity 50-75 foot candles and negatively biasing the substrate with respect to the electrolyte at 50-65V so as to produce H2 bubbles at the damage sites.
Method is as effective as, but quicker and/or less destructive than prior methods. It may be used to detect surface defects, defective junctions or defective parts of a large area junction.

6/3,AB/16 (Item 16 from file: 350)
DIALOG(R)File 350:Derwent WPIX

000994786
WPI Acc No: 1973-72067U/**197347**
Thin film investigation - on semiconductor substrate in scanning electron microscope
Patent Assignee: US SEC OF AIR FORCE (USAF)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 3772520	A					197347 B

Priority Applications (No Type Date): US 72236595 A 19720321; US 68716659 A 19680327

Abstract (Basic): US 3772520 A

A thin film deposited on the surface of a semiconductor substrate, contg. a PN-junction parallel to the surface, is investigated by displaying current variations at a surface contact on the body on a CRT while scanning the film with an electron microscope beam with which the CRT display is synchronised. Method is for investigating conductive or non-conductive thin films used in microelectronics or for biological investigation of tissue sections. There is improved resolution without using secondary electron collectors, special sample preparation is not required and simultaneous visual inspection is permitted without affecting the video signal.

6/3,AB/17 (Item 17 from file: 350)
DIALOG(R)File 350:Derwent WPIX

000942657
WPI Acc No: 1973-19889U/**197315**
Neutron gamma ray logging of oil and gas wells - with background radiation compensation
Patent Assignee: TEXACO DEV CORP (TEXC)
Number of Countries: 005 Number of Patents: 006
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 2245851	A					197315	B
FR 2153321	A					197327	
US 3780303	A					197352	
GB 1364575	A	19740821				197434	
CA 958128	A	19741119				197449	
DE 2245851	B	19790111				197903	

Priority Applications (No Type Date): US 71182037 A 19710920

Abstract (Basic): DE 2245851 A
Brief high-energy neutron pulses (5 microsecs) are emitted from a well probe into the strata; before each emission, the background gamma radiation, caused by captured thermal neutrons, is measured and the pulse sequence is stored. During each pulse, the gamma radiation due to inelastic neutron scattering in the strata is measured and counted. This count is finally corrected by an amount to compensate for the background radiation.